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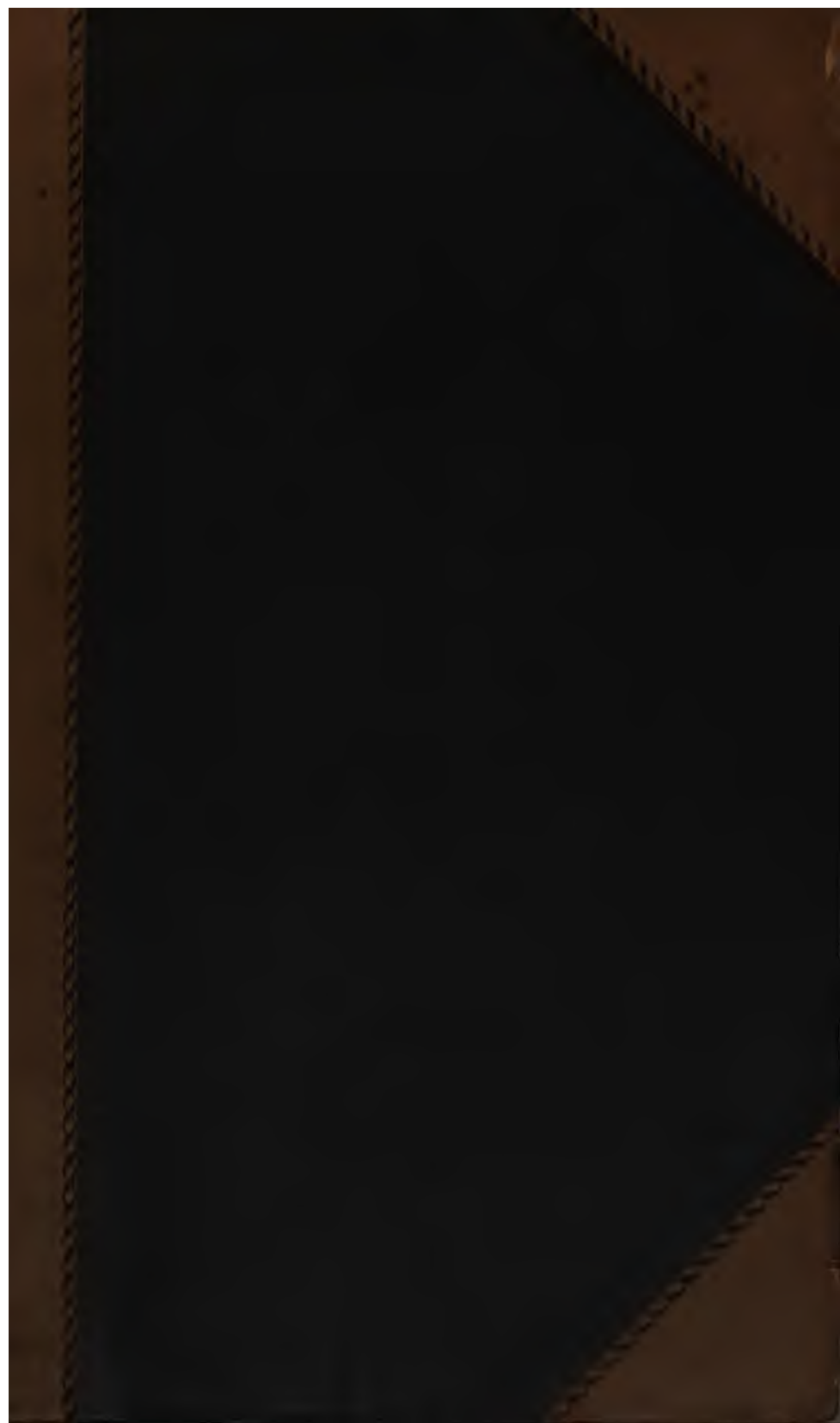
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DISQUISITIONS
IN THE
HISTORY OF MEDICINE;

Part First,

EXHIBITING A VIEW OF PHYSIC,
AS OBSERVED TO FLOURISH, DURING REMOTE PERIODS,
IN EUROPE, AND THE EAST.

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ADVERTISEMENT.

THE following Essays owe their existence, partly, to some singular traits the Author thought he had discovered in the Medicine of the early Greeks, and which he found attaching themselves, no less strongly, to the art as practised among other rude, or semibarbarous, tribes; partly, to the new light thrown on the primitive physic of mankind, by the extraordinary advances, attained, of late years, in Sanscrit Literature. From this last source it is learned, beyond the possibility of doubt, that long previous to its cultivation in Europe, very considerable progress had been reached by the science of healing, in Hindustan, and that a remarkable coincidence is to be discerned between its precepts, as inculcated by the Brahmans, and as promulgated, of old, by the respective Hierarchies of Iran, (the old Assyrian Empire of the Greeks,) and Egypt, more especially, the latter: but though from this, and other evidence, it be equally certain, that by the

efforts of these learned Bodies, a nearly regular System of Physic had been erected, at a very remote era, in the East, yet to commemorate its details, or appreciate its merits, has never yet become the task of any Historian of Medicine. In this new field of medical archæology the Author has ventured to labour. By what is now published, an attempt is made to supply the chasm, so far as Egypt is concerned; in a subsequent volume, the same path of research will be pursued by his endeavouring to investigate the condition of healing, such as it may be found to have flourished, in the other two Oriental Monarchies, no less distinguished, as is well known, for their early proficiency in arts and science, namely, Hindustan, and Iran. As an Appendix, will be subjoined a Treatise on the Physic of the ancient Jews.—In the mean time, it was judged prudent to wait the decision of the public regarding the present portion of the work submitted to its tribunal, ere the risk was incurred of printing the remainder.

Unfortunately, a considerable number of typographical errors will be found to occur in the course of the following work; particularly, in the orthography of French, and Latin words. These, it is requested, the indulgence of the learned reader will correct. A list of most of them, though not the whole, is subjoined at the last page.

INTRODUCTION.

OF the different kinds of knowledge men attain by experience, some, it is reasonable to believe, would be of elder date than others. Among the most ancient may, perhaps, be deemed what in later times has obtained the name of **MEDICINE**, that branch of Natural Philosophy, which, in its ample range, professes to comprehend whatever regards the structure, the functions, or diseases, of the human body. For the antiquity of such knowledge it might seem superfluous to adduce proof. In the diversity of laws that regulate the economy of animals, some may be discerned so extremely simple, as in no age to escape the observation of mankind; so intimately associated with sensations of pleasure or pain, as by no rudeness to be mistaken, by no ignorance overlooked. What passes daily in the body of every

individual may supply ready instances of this facility of remark. The most careless savage would soon discover that destitute of food, he grows languid and dispirited; that of his limbs the motions cannot be indefinitely prolonged, but must be limited to an inconsiderable portion of time; that to recover his accustomed vigour, nature continually demands the alternations of repose, or of sleep. Observations in physiology it were easy to multiply, no less early framed. It may be sufficient to cite, in addition, those remarkable changes in the growth, and other circumstances of the body, employed in every æra, as so many land-marks, by which to distinguish from each other the fleeting, though highly diversified, periods of animal life. In the discovery of these no intellectual progress is requisite. The helplessness of infancy, the agility of youth, the vigour of manhood, the imbecility and decrepitude of age, are events in the history of living beings that could in no period elude the observation of mankind,—are phenomena as obvious to the savage, as to the philosopher of later times.

Nor would the notice of men be for ever limited to such circumstances of their bodies as are apt to occur solely during the enjoyment of health, it would speedily be excited by feelings and appearances of a contrary import, such as

accompany impeded function, or take their rise from disordered organization.—The frame of man has been at all times surrounded by causes potent in producing upon it a variety of morbid changes, nor has the æra yet been seen that was exempt from disease. From diseases the transition is easy to death. Men would early attain acquaintance with that fundamental law in the economy of animals, by which it is provided, that whatever has once lived, must cease sooner or later to exhibit the phenomena of life; and the revolution of a few centuries would serve to convince them, that though the race itself might flourish, and promise to be immortal, it was the uncontrollable destiny of nature, that of such as compose it, each sinking by a common doom, must invariably and individually perish.

But, besides observations of this sort, others might be framed at the same remote age, more nearly connected with our present inquiry, since they may be said in some measure to exhibit the faint and feeble beginnings of PHYSIC, considered as a separate branch of knowledge.—In the multiplicity of medical speculation, it has sometimes proved matter of controversy to decide, which ought to be esteemed the most ancient, among these numerous departments, into which the advancement of science, and division of labour, have contrived, in later times, to diversify the

original simplicity of the art of healing*. Were it worthy of discussion, the decision on this question need be neither slow nor doubtful. The claims of physiology and pathology have been already admitted, but the supreme honours of antiquity must, without a doubt, be assigned in favour of the *Materia Medica*. Some attainment in the two first has appeared almost coeval with man; yet, since at no æra our species could subsist without food, it is evident, that at no period could an acquaintance, more or less ample, with that portion of the last which is entitled *Dietetics*, have been entirely wanting to the world.— A familiarity with such number and diversity of alimentary substances, as is more than sufficient to ensure the nourishment of the individual, forms a species of attainment too common in later times, to attract either attention or regard; to the first inhabitants of the globe, however, it must have been knowledge of infinite importance, as well as difficult acquisition. The various substances destined by nature for the sustenance of man, discover, many of them, in their extrinsic forms, no marks by which they may be distinguished from such as are unfitted for the purpose. It is by experience only such important knowledge comes to be attained. Innumerable experi-

* Litigatum est passim utra pars artis curandi fuerit antiquior. HALL.

ments, therefore, we may conclude, must have been instituted by the ancestors of our race, ere a point so essential to their existence, and welfare, could be properly ascertained. Repeated trials only, many of them not without danger, could have taught them to distinguish what was esculent and salutary, from what was innutritive or noxious; and it is likely, no inconsiderable time would elapse ere such stores of the former could be procured as were adequate to the incessant urgency of their wants.

In the history of our race there has undoubtedly occurred a period during which men destitute both of skill and materials with which to frame weapons for the killing of game; ignorant of the art of domesticating the wild creatures around them; and unacquainted with agriculture, possessed no other mean of subsistence than what was derived from the spontaneous products of the ground*. The primitive food of man, therefore, must have been the esculent plants presented to him by the hand of nature, and his

* Obvious traces of such a state are discernible in the records of all nations. The old Greeks, as a hundred authors tell, were accustomed to subsist at first on acorns, that is to say, on the spontaneous products of their fields and woods. A similar tradition has been preserved of the ancient Egyptians, (Diod. Lib. I.) and Chinese, (Gog. Extr. from Chin. Hist. in Vol. III. of *Orig. des Arts*, 305, Eng. trans.

first knowledge in Dieteticks could extend only to such articles as are of vegetable origin. To this skill in the first, information more or less ample in the second branch of the *Materia Medica*, that which is stiled Therapeuticks, must have speedily been conjoined. In the course of those endless experiments to which mankind would be impelled by their incessant desire to augment the stock of their alimentary wealth, various substances capable of producing upon the body what are called *Medicinal Effects*, could not fail of being brought to light. Instead of nourishing and wholesome, it would be discovered that many plants were innutritive and noxious, calculated in various ways to impair the health of the body, some by their property of purging, others by that of vomiting, others by causing a state of intoxication; while some, it would be found, were endowed with the fatal quality of extinguishing life altogether(1). It has already been observed, that the first food of man would be the spontaneous products of the ground; for a like reason, his first medicines would consist of VEGETABLE SIMPLES. And hence, during the most remote periods, among substances of vegetable origin, a distinction would arise, precisely similar to that which prevails at the present day; articles derived from this kingdom of nature, known to men, would be distributed by them into two great classes or divisions, the first comprehending such as are

alimentary, or fit for food; the second, such as are noxious, or unfit for this purpose, what, in later times, have been usually described under the title of MEDICINAL.

Though men might be thus easily instructed in the powers of vegetable simples, yet how to apply them to their proper end, the alleviation, or cure of disease, would be a part of knowledge, it is obvious, both to prove later in its origin, and slower in its progress. What those circumstances may have been, that by their peculiar agency, served to lay the first foundations of PRACTICAL PHYSIC in the world, it were now, perhaps, amidst the obscurity of distant ages, vain to inquire; whatever they were, however, whether experiments blindly undertaken under the anguish and pressure of disease; discoveries afforded by accident; or, as some have alleged, observations made by men of the instincts of the inferior animals (2); certain it is, that this branch of healing appears of the most ancient date, and to have existed in times and countries the most remote from civilization. No fact in the history of human knowledge seems better attested than this. A proficiency in the arts of practical physic, far beyond the humble scope of their other attainments, ever forms a curious, but unfailing trait, in the character of savages; and the observation is confirmed not only by every account of barbarous

life transmitted from the ancients, but still more clearly, and copiously, by those later and more accurate delineations of unpolished society afforded in such profusion, by the nautical discoveries of modern times. A thousand examples in proof might be adduced if necessary, but in place of more detailed evidence, it will be sufficient to cite, on this occasion, the singular proficiency displayed by our art, three centuries ago, among a part of mankind not owning obligation to any foreign intercourse, the rude and indigenous tribes of America.

At the period when the wonders of the new world became first displayed to European curiosity, the surface of its vast continent, together with the adjacent islands, was found peopled by races of men, differing, in many respects, from the natives of the ancient hemisphere. Some were observed in the most deplorable state of barbarity, and though others seemed to exhibit a more polished aspect, yet none could be said to have much advanced beyond the first stages of society. Debarred from the improvements of foreign intercourse by immense seas and continents interposed betwixt them and more civilized states, the Americans might be considered as affording a spectacle of what the human mind is capable of attaining, when left to its own efforts, in the natural progress of men from rudeness to refine-

ment. Amidst the general barbarism of America, however, its acquirements in practical physic were observed to be prominent, and remarkable. The navigators who first visited the shores of the New World, describe the state of its medicine in terms of respect and admiration; and assert, in one voice, that not only had the aboriginal inhabitants rendered themselves acquainted with a copious store of powerful simples, but had even acquired the more difficult art of applying them with skill and precision, to the removal of numerous, and formidable maladies. From the narrative of those voyagers who have supplied the most accurate accounts of the American countries, innumerable facts might be selected in testimony of this assertion. But, perhaps, the best proof of the medical skill of the Americans is to be deduced from another circumstance less liable to error, the frequent adoption of their remedies by the practitioners of more polished nations. The obligations of physic to this source may be pronounced at once numerous, and important. For some of the choicest treasures of the *Materia Medica*, it is well known, the nations of the Old World are entirely indebted to those of the New; and the most obstinate diseases of civilised Europe have frequently yielded to the powerful simples, originally culled by savage hands, amidst the wilds and forests of America (3). In proof of this high advancement of practical medicine

among the aboriginal Americans, one fact on record appears so extraordinary as to merit perhaps, particular recital. It relates to the Mexicans. Of this people it is recorded, that at the period when they became subjugated to the arms of Cortez, a large spot of ground in the neighbourhood of the capital, was found by their Spanish conquerors, set apart as a physic-garden, and devoted, at command of the sovereign, to the sole purpose of rearing such medicinal plants as were indigenous to his extensive dominions. This fact, which rests on unquestionable authority *, will appear the more remarkable, when it is considered, that the Mexicans, though perhaps the most civilised of all the ancient inhabitants of America, were yet in so rude a state as to be ignorant of the art of writing; and it shows, in a striking point of view, at how early an age a knowledge of vegetable simples must have sprung up among mankind.

Acquainted thus with the *Materia Medica*, and endowed with skill in practice, the next step towards medical improvement attained by mankind, it is likely, would be in *Dieteticks*, and would consist in the acquisition of a new species of food, namely, that which is furnished by the flesh of the inferior animals. Men find out very early some of

* *Hist. Gen. des Voy. L. v. c. 10.*

the metals, or other materials, as well as acquire skill for framing them into weapons, with which to kill the weaker, and to defend themselves against the attacks of the stronger quadrupeds. They also soon learn the art of domesticating several of the wild creatures around them, and hence would be supplied to their wants an additional fund of aliment, afforded not only by the beasts which they slaughtered, both wandering and domestic, but likewise by the milk of their cattle. Nor would the living productions of the land form the only source of animal subsistence to men in the first ages. Various suitable contrivances would soon be devised for ensnaring the esculent natives of the seas, lakes, and rivers. The art of the angler preceding generally the occupation of the shepherd, may be pronounced at least coeval with that of the hunter, and a diet of fish, it is well known, is found to constitute almost the sole food of many savage communities*.

* Many Ichthyophagous nations are mentioned by the ancients, still more have been discovered by the moderns. Among the last may be noticed the savages on the coast of New Albion (Vancouv. Voy. Vol. I. 262.); the Algonquin tribes on the shores of Lake Superior (Mackenz. Voy. xliii.); with a thousand others. It is likely that shell-fish found on the sides of the sea, or of rivers, as obtained without labour, or contrivance of any kind, might furnish the first example of this species of aliment ventured upon by mankind.

To show the early progress of alimentary arts, I may men-

The period at which men began to employ flesh as an article of diet is memorable in the history of physic on another account, because it is from this æra that we must date the commencement of a new species of knowledge intimately connected with the progress of medical science, I mean ANATOMY. That the practice of killing the inferior animals for food was one of the first and great circumstances that gave rise to anatomical investigation among mankind, is an opinion that cannot reasonably be called in question. He who performs the function of a butcher can hardly fail of obtaining an acquaintance, more or less accurate, with the fabric of the creature he deprives of life. It could not escape notice, for instance, that

tion here, a singular dietetical preparation contrived by the Chepewyan Indians, and termed, in their language, *pemican*. It is just a meat-powder consisting of the lean parts of their larger animals, thoroughly dried by means of a slow fire, the heat of the sun, or frost, and the pulverization effected betwixt two stones. In this form, the flesh we are told, will keep perfectly two or three years, provided it be freely exposed to the air during the Spring season. Sometimes the inside fat, or that of the rump, far more abundant in the quadrupeds of these northern tracts than in more southern regions, or marrow, together with pounded berries, is added in the preparation. This last is said to constitute the most perfect species of *pemican*. On this diet the Indians subsist during their journeys. It may be eaten by itself, but is commonly used along with salt, spices, or such vegetables as they can procure, (Ib. cxxi. Note.)

the body of an animal, though presenting externally to the eye a smooth and uniform appearance, was yet internally distributed into many and dissimilar parts *. It would even be discovered what portions of its frame were the most essential to life, since in their combats with wild beasts, or in the chace, it would be equally important for men to know where to strike the animal with most effect, so as in the one case to defend them-

* In the Chinese Anatomical Tables published by Cleyer, and which he describes as of the most remote antiquity, are represented all the separate internal parts of the common animals, the brain, heart, lungs, intestines, liver, spleen, kidney, bladder, uterus. The delineation evidently shows that the picture had been taken from the ordinary *esculent* quadrupeds, particularly that of the liver drawn with numerous sharp-pointed lobes. Even savages, it may be remarked, soon learn expertness in this dietetic anatomy. Examples will be found in the history of all rude nations. When Cook anchored off Tongataboo, one of the Friendly Islands, the natives were observed to dissect the dead animals used as food with great adroitness. "The same person who cleaned the hog in the morning, says Mr. Anderson, in his Journal, now cut it up (but not till we desired him) in a very dextrous manner, with a knife of split bamboo, dividing the several parts, and hitting the joints with a quickness and skill, that surprised us very much." (Cook's Voy. Vol. I. 322.) Similar dexterity, Kolbe assures us, is evinced by the Hottentots. When they kill a sheep, after disembowelling the animal, they generally leave the great vessels about the heart untouched, so that the alternate systole and diastole of the ventricles may be most distinctly perceived. (Kolbe G. Hope, Vol. I. 229, 230.)

selves against his attacks, and in the other to prevent the danger of his escape *. But the practice of butchery, originally dictated by necessity, was not to prove the only source of anatomical information to man in rude ages; a more powerful incentive to this species of investigation

* No æra can be fixed too early for the commencement of this species of physiology. Thus were proofs wanting, it might be difficult to mention any savage tribe so ignorant as not to know, for instance, the invariably lethal effects of wounding, or otherwise injuring, the spinal marrow. Among the nations of Pagan antiquity, in sacrificing oxen, it was the custom, time immemorial, if we believe Oribasius, to destroy the animal by cutting asunder this important part of his body. It is a prevailing opinion among the Otaheitians, that the seat of the soul and of vitality must, without doubt, be alike referred to the stomach and intestines, and in favour of this doctrine, arguments are urged by them not devoid of ingenuity. Thus when Vancouver endeavoured to convince them of the paramount importance of the brain, they only smiled, observing, at the same time, that they had often seen men survive injuries, even the most severe, inflicted on the head, but that they never perceived them to recover from serious wounds, or other lesions of the intestinal tube. As a farther proof was adduced by them, the superior degree of sensibility possessed by the abdominal viscera, demonstrated by the sickness, vomiting, and other disorders incident to these parts from mental causes, as fear, and other violent passions. (Vancouv. Voy.) It is not unamusing to meet with this approach to the tenets of Van Helmont in the distant isles of the South Sea.

When Father Parennin, at desire of the illustrious Cang-li, emperor of China, and the liberal patron of European science,

was to arise from his superstition. Misled by erroneous notions of heaven, or by a false assimilation of the divine to the human nature, it has been the immemorial custom of nations to set apart for the deity a certain portion of their food. Among communities not far advanced in refinement, shepherd tribes and hunters, the species of viand allotted to this purpose is observed to be commonly some of their esculent quadrupeds, either wild, or domestic. But the ends of the sacrifice cannot be attained without the aid of anatomy. It became requisite, in the first place, that the external form of the victim should be carefully examined, in order that that only might be presented which was free from blemish, and the most perfect of its kind. The internal structure of the creature was to demand an investigation still more rigorous, and exact. The fabric, configuration, and position of the various deep seated organs were to be minutely scrutinized, since according to ancient belief, it was by marks

translated into the Mantcheou tongue, or language of Eastern Tartary, the Treatises of the French Anatomist Dionis, he found a ready vocable for each part, except such as required for inspection the aid of the microscope. The learned Jesuit had visited Eastern Tartary eighteen times in the suite of the Emperor, and was completely master of its dialect. (See his Lett. to Acad. of Scienc. in Lett. Edif. et Cur. T. XIX. 257.)

impressed on those parts, the deity was accustomed to manifest not only his good will or displeasure towards men, but even to point out to them the course of future events *. In early ages, during the tumults and perils of incessant warfare, a custom whence such important information was to be derived, it is likely, would be frequently resorted to; sacrifices would be often performed, and by those who presided at the ceremony, and whose hands immolated the victim, the priests or sovereigns of small communities, not only would some skill in dissection be attained, but no inconsiderable information, in time, procured, concerning the visceral anatomy of the inferior animals. The creatures, besides, devotion was thus accustomed to offer up at the shrine of divinity, have it is well known, many points of their structure in common with man. Hence there might spring up to him, even during the most remote ages, information not altogether imperfect, concerning

* The liver, among many nations, seems to have been the viscus principally resorted to for information of this sort. The accuracy with which it was inspected appears from the number of parts into which it was distributed during the haruspical investigation. Of these parts many of the names, such as the head, sword, nail, &c. are now no longer intelligible, but the foolish appellation of the portæ or gates of the liver, still retained in our systems of anatomy, betray the traces of the ancient superstition. (Hall. Bib. Anat. T. I. 3.)

the intricacies of his own frame. It must not be concluded however that the dissections of brutes, together with deducible analogies, were to form, during early times, the only instructors to men concerning their own corporeal conformation. More direct access to this species of knowledge was to result from sources less innocent, or excusable. In fact, anthropotomy may be regarded as hardly less ancient in date than butchery of the inferior animals, and the former was to take its rise from principles disgraceful, though indelible in our nature, the brutality of appetite, the cruelty of superstition, or the excesses of revenge. The records of nations unhappily confirm, by too many instances, the truth of this remark, and were a general survey of the world taken, it might perhaps be difficult to name a people amid whose reprehensible acts, philosophy has not had, on some occasion, to deplore, either the atrocious guilt of offering up human victims, the custom of deliberately torturing or murdering prisoners taken in war, or the abominable practice of employing the flesh of their own species as food (4). That from enormities such as these information not unimportant concerning the structure and physiology of the human body, might, in many instances, be derived, it were useless to deny; though the art of medicine whose function it is to alleviate, not inflict pain, to preserve not destroy life, must ever reject with detestation sources of improve-

ment no less repugnant to its principles, than inconsistent with humanity *.

Among the original sources of Anatomy has also been enumerated another practice observed to spring from opposite and more amiable propensities, that common to many nations of preserving from corruption, by means of various processes, the dead bodies of departed relatives, or friends. The art of Embalming, in its diversified details, could hardly fail of throwing much light on many parts, both inward and external, of the human fabric. By familiarizing men to the sight of the dead, it might even encourage anatomical investigation, if not of the carcases of men, at least of those of the inferior animals †.

* I have copied here the respectable sentiment, as recorded by Apuleius, of a Grecian physician, who having refused to vend a poisonous drug, intended by a step-dame inflamed with the same passions as Phedra, to destroy her step-son, accompanied his rejection of the proffered bribe, by the following reproof: “Nec meæ sectæ credere convenire, causas ulli præbere mortis, nec *exitio*, sed *saluti* hominum, medicinam quæsitam esse, didicissem.” (Apul. Metam. Lib. X. p. 697, 698, Ruhnken. Edit.)

† The Egyptians are not the only people who practised embalming; traces of a similar art are discoverable amongst various rude communities which the navigators of modern times have brought to light. Thus the Guanches, an aboriginal tribe of Teneriffe, we are informed, were found so dex-

Such it is likely, might have been some of the principal circumstances that served to establish the first foundations of ANATOMICAL knowledge in the world. Other causes may be conceived as contributing to the same effect, many of which have been enumerated by authors, such as accidents laying open the integuments, and other

trous in this practice, as even to preserve the flexibility of the skin, together with the natural appearance of its vessels. (Sprat. Hist. of Roy. Soc. p. 209.) The indigenæ of Nova Scotia (Acadie) were observed by the French missionaries to dry and disembowel their dead. (Charlev. T. I. 125.) In Otaheite, a process is known which completely prevents putrefaction for more than six months, notwithstanding the heat of the climate. (Vancouv. Voy. I. 125.) This process, as we learn from the missionaries, consists in extracting the brain and viscera, then carefully washing and drying the cavities, and afterwards anointing daily both inside and outside with cocoa-nut oil, so that the whole fabric exhibits the appearance of a skeleton covered over with oil-cloth. It is now ready for being deposited on the stages or *tupapows* where they preserve their dead. (Miss. Voy. to S. Pac. Oc. p. 212.) Vancouver likewise discovered in New Albion a number of very complete skeletons, partly of adults deposited in canoes, partly of children placed in baskets, both suspended from trees at the height of twelve feet from the ground. Numerous other instances of embalming might be readily collected from the records of rude communities, so as to show that this road to anatomical knowledge had been very early laid open to mankind; as the natives of Oonalaska and Kadiak, two islands in the Archipelago betwixt Asia and America, who preserve their dead with dry moss and grass, &c. (Sawer's Narr. of Bell. Exped. 161.)

external parts of the body; skeletons of men and animals found by chance*; and above all wounds received in battle. This last, it is likely, might prove a fertile source of anatomical knowledge, during rude ages, when men were almost constantly employed in the conflicts of war. By the penetration of weapons, there could not fail of being frequently exposed to view the most secret, and inward recesses, of the human body.

As we contemplate the origin of Anatomy our attention is naturally turned towards another branch in the profession of healing, intimately connected with a due knowledge of the human fabric, the art of SURGERY. It must be remarked here, however, that the department of medicine

* Many such have been discovered in dry sandy places. The most perfect human skeleton, Galen relates, he had ever seen, was found buried in the sands of Arabia. It was the body of a robber slain by a traveller, and whose bones, after having been at first picked by the vultures, were completely exsiccated by the extreme aridity of the climate. (Hall. Bib. Anat. T. I. 6.)

The casualties of common life, and wounds received in battle, could not fail to lead to many facts both in anatomy and physiology. A man was run through the scrobiculus cordis immediately after drinking, and the liquor issued at the wound, whence, says Aristotle, it was first discovered that every fluid must pass previously into the stomach ere it could be excreted by the kidney. (See Hall. Bib. Anat. T. I.

so named, as it exists in primary ages, is by its nature, widely different from what obtains a similar appellation, during after and more polished times. In this latter æra, the alliance betwixt the Anatomist and Surgeon seems indissoluble and essential, in the former, it is to be considered as by no means equally intimate. In truth, what of surgery is practised among rude nations will be found almost pure empiricism, and to hold little dependence on that knowledge which is procured from the dissection of dead bodies. A difficult art, which, by developing the structure, professes to explain the functions of those numerous and complicated organs which serve to constitute the frame of man, cannot reasonably be supposed to have taken its origin amidst the ignorance of savage tribes. The discoveries of anatomy tardily achieved, are still more slowly applied to the living subject, and much time would elapse ere men had attained sufficient confidence in their own skill, to venture on those deep and formidable incisions, those bold dismemberments of one part of the body from another, so often demanded in

p. 6.) The people of Otaheite, Cook assures us, from their observation of wounds and accidents, distinguish very adroitly betwixt the comparative risk to be apprehended from lesions of the brain, and those of the spinal marrow, affirming with great truth, that the former, even though considerable, occasionally admit of cure, the latter, in the same circumstances, never. (Cook's Voy. vol. II. p. 152, 153.)

the operations of the modern surgeon. It may be for this reason that among uncivilized communities, the attainments of surgery are often found inferior to those in other branches of healing, and more especially, not to be compared in importance with the proficiency reached in what is peculiarly denominated the *practice of physic*. It is by no means to be supposed, however, that all experience in surgery was wanting to the first inhabitants of the world. Certain surgical facts might rise to notice even during the darkest times. The body is perpetually liable to external casualties, no less than internal disorders, and attempts in every age must have been made for the relief of the former, no less than that of the latter. In the class of maladies that outwardly assail it, some tumours, it might be perceived, were distinguished for the property of disappearing without any discharge of matter, while others did not usually subside, till after previous suppuration. The weapons which the chance of war might from time to time infix in their bodies, it behoved men to extract with what skill they might; and the observation might readily occur, that to alleviate the pain of wounds and ulcers, it became frequently an useful expedient to defend their surfaces against the impressions of the external air. But, even among nations not far advanced in refinement, accessions of improvement in this branch of healing might readily occur, superior

in importance to those instances just now enumerated. Surgery may deservedly rank in the list of those arts that hasten to advancement even amidst all the obstructions of savage life; since the same necessity which originally prompted men to seek a cure for their constitutional and inward maladies, must have impelled them to devise means of relief for such as are topical, or external. A celebrated writer, therefore, to whom physic in every branch owes transcendent obligations, and whose steps, hitherto, in the history of our art, it has been the pride of this work to pursue with scrupulous, and grateful fidelity*, may perhaps be said to have estimated at too low a rate, the degree of surgical knowledge commonly attained among uncivilised communities. It were easy to show, from the authenticated reports of modern voyagers, that in that species of physic which heals by the hand and external medicaments, many uncultivated countries are by no means to be accounted deficient. Some proofs in confirmation of this remark may not perhaps prove wholly unacceptable to the medical reader. Nations, whose barbarism cannot be suspected, will be found to supply them in sufficient numbers. Those I shall cite at present are derived

* The illustrious Haller. See the initiatory pages of his Biblioth. Med. Pract. ——— Botan. ——— Anatom. ——— Chirurgic.

from three sources only, the races of Polynæsia or groupés of islands scattered over the South Pacific; those of the western and southern shores of the African continent; and the aboriginal hordes of America. The recital of a few facts may besides serve to relieve a little the tediousness of mere general discussion.

In Otaheite, we learn from Cook's narrative, the natives exhibit considerable knowledge of an important department in surgery, that which is occupied in the treatment of broken bones. To keep the ends together, they employ the artifice of splints; but if the bone be very much shattered, or as we express it, the fracture be very compound, they amputate the limb in the best manner they are able. In luxations their management is said to be less dextrous. Anderson mentions a case of dislocated shoulder, which proved beyond their skill, a miscarriage not surprising, since the reduction of the same joint is not unfrequently known to baffle the expertness of an European surgeon. (Cook's Voy. Vol. II. p. 152.) The same navigator relates that in Lefooga one of the Friendly Isles, he found a woman, one day, very busily employed in endeavouring to remove, by means of two wooden probes, a speck which had grown upon the eyes of a child. (Ib. Vol. I. p. 260.)

The Negro races that people the western, and southern coasts of Africa, discover, likewise, considerable acquaintance with several manipulations of surgery. Thus the natives of Congo and the Gold Coast understand very well how to perform venæsection, and to employ with sufficient effect a species of cupping-glasses made after their own fashion. A Portuguese missionary relates, that while in Congo being ill of a tertian ague, he was let blood by the king's brother with nearly as much dexterity as is customary in Europe. (*Hist. Gen. des Voy. T. IV. 561, 643.*) The Blacks that inhabit the kingdom of Issini remove the pleurisies of their country by deep scarifications of the shoulders, whence they extract the blood by pieces of horn used in the manner of a cupping-glass. Father Loyer from whom this relation is taken, farther adds, that the same people by means of their simples cure wounds of extraordinary depth, as of five inches, and even where the bone has been exposed. (*ib. T. III. 434.*) The Hottentots are not less skilful than the Negroes of the western coast. Acquainted with the powerful effects in subduing inflammatory diseases, produced by artificial diminutions in the quantity of the circulating blood, they not only, during such distempers, open a vein with considerable adroitness, but subtract the vital fluid by a contrivance like cupping, first making two incisions each about an inch long, and then sucking through a cow's

horn. In accidents of dislocation, they first try to supple the parts by friction with grease, and then proceed to reduction. Not only ordinary wounds yield readily to their vulnerary simples, but even such as are poisoned. (ib. T. V. 163, 164.) A peculiar custom prevails among this people, also found among some of the neighbouring tribes, of rendering all their male youth, at a certain season of life, *monorchides*. The operation is performed by the priests, who take up the bleeding vessels, and stitch the wound with great dexterity. The needle or tenaculum is the bone of a bird sharpened to a point, the ligature a slip of sheep's sinew. (Kolbe's Pres. State of Cape of G. Hope, Vol. I. ch. 7.) Similar skill in many surgical ailments is imputed by a more modern traveller, Mungo Park, to the African nation known under the name of Mandingoes. The management of fractures and dislocations among this people, he says, is highly successful, and their splints and bandages are simple, and easily removed. Abscesses they open by assistance of the actual cautery. The operation of cupping as among the Issinis, is performed by means of a bullock's horn perforated with a small hole in the extremity. In managing this instrument, the operator, after making due incisions in the part, takes a piece of bees' wax in his mouth, and putting his lips to the hole, extracts the air from the horn, and by a dextrous use of his tongue stops up the hole with the wax;

the discharge produced is in general very plentiful. (Park's Trav. 413, 414.)

The aboriginal Americans are not less celebrated for their attainments in surgery than the rude nations of Africa, or the islanders of the South Sea. Uninstructed in the European method of blood-letting, the savages of Canada, Charlevoix and Lafitau assure us, supply the defect by deep and plentiful scarifications, which they effect by means of pointed reeds, or of sharpened pieces of stone. The flow of blood is promoted by a rude cupping-glass formed of a species of gourd. The actual cautery is likewise had recourse to among them under a great variety of shapes. (Charlev. Hist. de la Nouv. Fr. T. III. 366. Lafit. Mœurs. des Sauv. T. II. 370.)

The extraordinary skill displayed by the same savages in curing wounds, is highly praised by both writers. The Iroquois nation in particular restore lesions of soft parts with uncommon rapidity by means of a method of suction formerly well known in French practice, and of late highly extolled by one of the first of modern surgeons *. (Lafit. T. II. 33.) The same missionary Lafitau celebrates the general skill of the Canadian tribes in ruptures, dislocations, and fractures, (ib. 368.) The wild natives of Carthagera Bay,

* Mr. John Bell, see Discourses on Wounds, p. 215, et seq.

Ulloa assures us, far exceed Europeans in the extraction and cure of the Guinea worm. (Ulloa's Voy. Vol. I. 46, Eng. Tran.) Even the rude Patagonians, as we learn from Magellan who first discovered and named them, appear acquainted with the alleviation of pain experienced in diseases by withdrawing a quantity of blood from the body. Thus when seized with headach, they cut themselves across the forehead, so as to let the blood flow, while in pains of other parts they have recourse to similar incisions. To excite vomiting they touch the top of the fauces with an arrow. (Purchas. B. II. 35.)

The above instances, taken at random from books of modern voyages, and many more might be adduced, serve to show that various modes of surgical practice are, in reality, not unfamiliar to savage nations, so as to justify the opinion that this branch of healing, though less mature in its origin and progress than the practice of physic, may yet have arisen during very early ages of the world. By surgery here must be understood only such manipulations as are founded on empiricism, or experience alone. As to what in modern times is more peculiarly designated under that appellation, it becomes obvious to remark, that an art, built on the laborious investigations of the anatomist, is not likely to appear in barbarous times, but must owe both existence and cultivation to a latter and more enlightened æra.

In the foregoing sketch, an attempt has been made to trace some of the probable circumstances that may have served to lay the first foundations of *Healing* in the world, and which may have operated to that effect, in periods the most remote, and ere any record had yet been kept of the transactions, or knowledge, of mankind. It is time attention should now be turned to what can alone be termed a *History of Medicine*, such recitals regarding our art as the archives of nations actually supply, or such as have been rescued from oblivion by the aid of written memorial, or tradition.

A complete narrative of this sort, or a complete **HISTORY OF PHYSIC** appears naturally divisible into *two* Grand Portions, or Departments, one comprehending such accounts of Healing, during *ancient times*, as have reached posterity; the other, embracing its annals during *modern ages*. These grand departments again, will admit, each of them, of further distribution into *four subordinate epochs*.

I.

**GREAT DEPARTMENT, OR HISTORY OF PHYSIC
DURING ANCIENT TIMES.**

This will commence with the earliest trace of tradition or history, and terminate at the establishment of the Caliphat, or empire of the Arabians, during the eighth century.

Subordinate Epochs.

1. From the beginning of history or tradition, to the rise of letters and philosophy in Greece.
2. From this first improvement of the Western World, to the age of Hippocrates inclusive.
3. From Hippocrates, to Dioscorides and Galen.
4. From Galen to the establishment of the empire of the Arabians.

II.

GRAND DEPARTMENT, OR HISTORY OF PHYSIC
DURING MODERN AGES.*Subordinate Epochs.*

1. From the establishment of the Caliphat, or empire of the Arabians, to the revival of literature in the West of Europe.
2. From the latter important occurrence, to the overthrow of the doctrines of Galen.
3. From the subsequent rise of new dogmas in physic, to the era of Boerhaave.
4. From the age of Boerhaave, to the present time.

NOTES.

(1) Savages soon learn to distinguish such vegetables as are wholesome from such as are deleterious.—When the late Admiral Byron was shipwrecked on the coast of Chili, roaming about one day in quest of food, he happened to lay hold of a fruit which presented a sufficiently tempting appearance, but ere he could convey it to his lips, it was in a moment, struck out of his hand by an Indian who attended him as his companion. At first some anger was excited, but he was soon made to comprehend by signs that what he had thus attempted to devour was a deadly poison. The Chilese to whose dietetical knowledge the Admiral was in this manner indebted for his life, is described by him as one of the most abject of barbarians. (Byr. Narr. p. 163.)

In countries exuberantly fertile of spontaneous product, alimentary inquiries would soon terminate, because men are too indolent to labour where there exists no very strong motive of exertion.—Something more than a century ago the delicious fruit of the Ananas or pine-apple is said to have been introduced into Cooch Bahar, the northern boundary of Bengal, by a general of the famous Aurengzebe. In the year 1783 it was found growing wild by Captain Turner in his journey to Tibet, but was never tasted by the natives. (Turner's Embass. p. 15.) The people of Bootan were much surprised to see the same traveller and his party gather and eat the straw-berries they met with in the woods, and by the road side. The sagacity, in all dietetical inquiries, displayed by savages is in no instance better illustrated than when, in their researches after food, they happen to encounter

any substance partly nutritive, partly deleterious. In this case, they never fail to discover some method by which to separate the wholesome from the unwholesome, so as to reap the full benefit of the former. Thus many esculent roots, as the Arums for example, are made up of two principles, the one acrid and poisonous, the other farinaceous and nourishing, yet these roots were employed, without detriment, as food by the old Egyptians, as we learn from the Greeks, and are, at present, applied to a similar purpose, as we are informed by modern voyagers, among the islanders of the South Sea. A like remark is applicable to the Calla Pallustris, Marsh Calla, consisting of starch and acrimony, yet converted, for ages, to the uses of bread, by the people of Lapland. (Lin. Amœn. Acad. T. I. 446). But the most remarkable instance of this dietetical management, among savages, is to be found in the Jatropha Manichot, a substance, time immemorial, employed as food by the whole indigenous population of America. Besides starch, this root is impregnated with a large quantity of sweetish juice highly poisonous, which however the native Americans have long known, how either to disjoin, or to correct. The corrective used is said to be the Capsicum Annuum or Guinea pepper, and under this combination, we are told, they are so hardy as to employ the Manichot juice in their sauces. (Dr. Clarke on Med. Facts and Observ. Vol. VII. De Pauw Rech. Sur les Amer. T. I. 6.) To show the deleterious quality of this root, a strong negro who had swallowed about half a pint of the juice, died in less than half an hour; a vigorous mule to which the same quantity had been given, perished within a shorter period. (Winterbott. Sierr. Leon. Vol. I. 268, note.) The Manichot is worth the pains taken with it, affording a very large quantity of starch, (supposed by many to be the most nutrient of vegetable principles,) 4 lb. of it, according to Clarke's experiments (paper above quoted) yielding no less than eleven ounces of that substance. It is from this root, after the

poisonous fluid part has been expressed, that is formed *Cassada bread*, and the preparation termed *Tapioca*, the last by repeated toasting on a heated iron-plate.

It has been asserted in the text, that in their researches after food, by personal experience, numerous poisonous substances could not fail of being brought to light, among the first inhabitants of the globe, an affirmation abundantly confirmed by the early records of every country. Thus hardly a savage tribe will be found not acquainted with an ample store of articles destructive of life, used either for smearing their weapons of war, or hunting, or to ensure success in fishing. These are perceived to be partly of animal, partly of vegetable origin. Among the former, might be enumerated the venom of serpents employed by almost every barbarous race, as the Boshiesmen, for anointing their arrows, (Sparrm. Voy. Vol. I. 156,) the saliva of the *Lacerta Gekko*, and a bruised caterpillar bred in the juice of a particular poisonous plant, applied to a similar end; respectively, by several Hindoo tribes, (Penn. Hindoost. Vol. I. 201,) and by the Mimi-quas of Africa; (Vaill. Trav. into Inter. of Afric. Vol. II. 359;) to which may be added a maggot nourished in the putrid milk of the *Jatropha Manihot*, so potent that the smallest quantity, what can be readily concealed beneath the nail, if infused in drink, is sufficient to extinguish life, and accordingly often so administered, if we believe Long, for the purpose of assassination, both by Indians, and Negroes; (Long's Hist. of Jam. 4th ed. Vol. III. 781.) the *Furube* of Japan, (*Tetradon Ocellatus*,) the eating of which is certain and inevitable death, and therefore chosen as food by such in that island as have determined to commit suicide. (Kæmpf. Hist. of Jap. Vol. I. 134.) The list of lethal vegetable substances known to rude communities, will, for an obvious reason, be still more ample than those of animal extract. Thus the fish poisons of savage tribes are almost

without number; as examples may be mentioned the three herbs used by the Guiana Indians noticed by Bancroft; (Hist. of Guian. 167;) the fruit of the *Barringtonia Speciosa* made into a paste with other drugs, and applied to the same end by the people of Ternate and Java, (Penn. Hindoost. Vol. I. 233,) and by the islanders of the South Sea, who employ in addition the leaves of the *Daphne Fœtida*, *Galega Piscidia*, and *Lepidium Piscidium*. (Forst. Obs. during Voy. round World, 463.) For various other instances see Marsd. Hist. of Sum. 151. Lett. Edif. et Cur. T. VIII. 83. The people of Kadiak, one of the islands in the Archipelago lying betwixt Northern Asia and America, are said to poison their arrows with dried wolfsbane, (*Aconitum Napellus*. Billing's Narr. of Sawyer's Exp. 177, 178.) the Hottentots sometimes with a mixture of serpent venom, and expressed juice of *Costrum Venenatum*, more frequently with the unmixed sap of the *Sideroxyllum Toxiferum*, and *Amaryllis Disticha*. (Sparrrm. Vol. I. 198. Vol. II. 162, 163.) But of all vegetable substances subversive of life, familiar among rude tribes, the most powerful perhaps may be reckoned the Accawau, Ticunas, and Caruna poisons, the two first of a very complicated nature, and requiring therefore for their discovery at once numerous experiments, and sagacious observation.

The following notices regarding these famous Indian drugs, it is possible will not prove unacceptable to the reader.

The first, or Accawau compound, is used for smearing their arrows by the tribes of the same name who inhabit towards the sources of the Demerary, Berbice, and Essequibo rivers, and is said to be prepared by decoction of five different kinds of bark. According to Bancroft, it appears under the form of a brownish red gum, soluble in water, and liquifying by heat. The author tells us he procured some of it from the Peiis, or native Priest-Physicians of Guiana, and

that when infused into a wound, it was capable of extinguishing life in less than a minute, at the same time producing hardly any pain, or other disturbance, except, occasionally, a slight convulsion. (Bancr. Guian. 267, 288, 289.)

The second, or Ticunas poison, is still more compound in its contrivance, consisting, we are assured, of no less than thirty different ingredients. It was first made known to Europe by M. de la Condamine who brought home a quantity of it on his return from his philosophic voyage to South America. It is prepared, we are informed, not only by the Ticunas whose name it bears, but also by the Yameos and Pevas two other tribes occupying the banks of the river of Amazons. (See Pap. by M. Herissant in Phil. Trans. Vol. XLVII. 75.) Many experiments were made with it by Herissant, and still more by Fontana. (See Fontan. Vol. II. 90. Eng. Transl.) This last describes it as a gummy extract, fetid in its smell, and if placed upon red-hot coals, emitting an odour like that of burning excrements. The taste was bitter, accompanied with a liquorice impression. Infused into a wound, the hundredth part of a grain was sufficient for killing a small animal. Internally it is equally fatal, but requires larger doses. According to the same authority, it is not true, as had been told Condamine, and as is alleged by Herissant, that its fumes are pernicious, or that sugar acts as an antidote against its malignity. Along with the Ticunas, Herissant relates that he procured also a quantity of the Lamas poison prepared in the neighbourhood of a Spanish village of the same name in Upper Peru. The last was found no less destructive than the first, and when blended together the noxious power of each seemed to be augmented by the mixture.—What is called the Caruna poison is prepared by the Guiana Indians, and it is so named because it is said to consist principally of the oily and farinaceous nut whose appellation it bears. This article may perhaps be considered as the most subtle and

dangerous of any yet mentioned. It is even deceptive to the eye, bearing a strong resemblance to wheaten flour. From its potency it is often applied to the purpose of assassination, and the smallest quantity is sufficient, what can readily be deposited below the nail, and may, by him, who holds the cup, be infused into the drink of the devoted victim, whom we are assured, it never fails to destroy by a slow, but inevitable death. Bancr. Guian. 98, 266, -67.

The same spirit of dietetical inquiry prevalent during the first ages of the world which produced the discovery of poisons, would also lead, in time, to a knowledge of their antidotes. Hence hardly an uncivilized community is to be met with that is not acquainted with numerous specifics against a species of venom that must have been early known to our race, that applied in the bite of serpents. For instances of such specifics, among the indigenous tribes of South America, (see Ulloa Voy. vol. I. 51, Bancr. Guian. 52,) among those of North America, (Hist. of Miss. of Unit. Breth. part I. ch. 9. Lettr. Edif. et Cur. T. VII. 27.) The Cingalese, or people of Ceylon employ against the poison of the Cobra de Capello three vegetables, the *Ophiorriza Mungos*, the *Strychnos Colubrina*, and the *Ophioxylon Serpentinum*. Penn. Hindoost. V. I. 197. In other parts of India the Tanjore pill is famous against every sort of serpent. (Russ. on Ind. serp.) At the Cape of Good Hope many of the lizards are poisonous, particularly one stiled T' jeiye, frequenting Goree river. A girl bit by this reptile, we learn from Sparrman, was speedily cured by a Bungunese slave; the remedy however, as well as several others in his possession, he could not be prevailed upon to disclose, and the secret perished with him. (Sparrm. vol. II. 332). Rude as they are, the Hottentôts are perfectly well acquainted with the fact that the venom of serpents is noxious only when applied to a wounded surface, but is perfectly harmless when received into

the stomach. Hence in accidents of this kind, they first scarify the place, and afterwards, like the *Psylli* of old (*Luc. Phar. Lib. IX. v. 929—932*) make no scruple of sucking out the venom, (*Thunb. Trav. vol. I. p. 156,*) thus verifying the observation of the poet:

*Noxia serpentum est, admisto sanguine, pestis;
Morsu virus habent, et fatum dente minantur:
Pocula morte carent.*—————

(2) The legends of physic are filled with instances illustrative of all those modes of discovery. Thus sick people, it is said, often desire food or drink suited to their various dispositions. As examples, are cited by Haller the inclination of dysenterics for ripe fruits, of diabetics for fish, of the emaciated for oysters. Regarding this last, a curious narrative is preserved by Tulpus. (See *Hall. Bib. Med. Pract. T. I. 2.*)

For the powers of medicines indicated by accident, consult *Hall. ib. and Bib. Bot. T. I. 3, 4.* As an example, one of the most celebrated articles of the *Materia Medica*, Peruvian Bark, is said to have been brought to light by a trial altogether fortuitous. An Indian of Peru who laboured under an intermittent fever, it is related, was compelled one day, by excessive thirst, to drink of a pool of water he happened to meet with in the fields. Though the liquor was extremely bitter, the draught was copious, and to his surprize the disease returned no more. Others, we are told, affected with agues, tried the same remedy, and experienced similar benefit. At first it was imagined that the salutary virtue depended upon something inherent in the water, but this was found to be a mistake, and it was at length discovered that both the bitter taste and medicinal efficacy, arose from a large quantity of the bark of a neighbouring tree that had fallen into, and was infused, in the pool. The tree was the celebrated *Cin-*

chona. By an easy analogy the bark itself came to be employed, and the febrifuge virtues of the remedy were soon rendered known to the inhabitants of America. To this narrative it may be subjoined, that after the subjugation of Peru, the efficacy of the medicine was carefully concealed from the Spaniards, but was at last revealed to the governor of Loxa by an Indian, in gratitude for a signal obligation formerly conferred: nor was an opportunity long wanting of trying its effect on a European constitution. The first subject of experiment was of high rank, the Countess del Chincon, lady of the viceroy of Peru. Her disease was an ague, under which she had nearly sunk, till the governor of Loxa hearing of her danger, sent her a quantity of the new remedy by which she was speedily cured. The names of Cinchona and Pulvis Cometissæ still attest this first display of the powers of the Peruvian simple. About the same period also, two other appellations were bestowed upon it, those of Pulvis Patrum, and Pulvis Cardinalis di Lugo, alike derived from the circumstance that the father Jesuits of America, were extremely active in sending specimens of the now celebrated Cinchona to Europe, more especially the Cardinal di Lugo, the then procurator of the order.

With respect to therapeutical information derived from animals, whole treatises have been written. One of the most common instances is taken from the dog, observed when sick, to eat a quantity of prickly grass, an expedient which seldom fails to answer all the purposes of an emetic. Another example is afforded by the goat. An Arabian shepherd, it is related, having observed the goats of his flock, as often as they browsed upon the coffee-fruit, to skip about, and display other signs of intoxication, was induced to try the berry on himself so as to discover its exhilarating quality. The apes of Abyssinia, in like manner, are reported to have, by trials on themselves, first exhibited to men the laxative qualities of

the Cassia Fistula. For other instances, some of them foolish enough, as that of the hippopotamus and Ibis, see Hall. Bib. Med. Pract. T. I. 45. and his long note in Bib. Bot. T. I. 3. Le Clerc Hist. de la Med. p. 4. In looking over these authorities, the reader will perceive that most of the facts have been compiled by the credulity of Pliny and Ælian.

(3) The list of valuable remedies derived from the shores of America is not a little ample. Thus for one of our most usually employed emetics and purgatives, Ipecacuan* and Jalap, we are indebted solely, as is well known, to this quarter of the world. The Diaphoretic remedies Guaiac, Sarsaparilla, and Sassafras, acknowledge a similar origin. Of Tonics, whose medicinal efficacy depends upon a mixture of the astringent and bitter principle, besides the Cinchona Officinalis, ordinary Peruvian bark, may be enumerated various species and varieties of the same genus, as the Cinchona Caribœa—Floribunda—Angustifolia, to which may be added the Swietenia Mahagoni, and — Febrifuga. Among the purer bitters may be set down the Quasia Excelsa—Amara—Semiruba. A combination of the bitter principle with much aroma is displayed in the Aristolochia Serpentaria, Dorstenia Contrayera, Croton Eleutheria, (Cascarilla Bark,) Canella Alba, Angustura. Of nearly pure astringency we have a specimen in the Logwood, or Hæmatoxylum Campechianum. Among Anthelmintics from America may be mentioned two species of Spigelia, Sp. Anthelmia and Sp. Marylandica, two of Geoffrœa, the G. Jamaicensis and G. Surinamensis, with the Chenopodium Anthelmium. One of the most excellent of Diuretics, the Polygala Seneka, a remedy with which I have cured many dropsies, has been derived to

* This is equally true whether we use the *Psycotria Emetica* of Mutis, the *Caliccoca Ipecac.* of Brotero, or the white root supposed commonly to be a *Viola*.

us from the same region, along with which may be classed, as possessing a similar though inferior virtue, the Caliguales and Timac Roots, the Cissampelos Pareira, and Thuya Occidentalis, the last highly extolled for its antihydropic qualities by Boerhaave. (Chem. T. II. p. 68.) The balsamic and resinous substances of America compose a numerous catalogue, as the Balsams of Capivi, Tolu, Peru, and Canada, to which may be added Liquidambar, Liquid Storax, Tacamahaca and Anime. Myrtus Pimenta (Jamaica Pepper) and Capsicum Annuum may be said to constitute the two principal among the purer aromatics of the New World. As for Tobacco the Americans appear to have been acquainted with its vermifuge property, and from this circumstance, as well as its use, universal among them as a luxury, they could not fail to learn likewise its emetic, purgative, and intoxicating qualities. (De Pauw Rech. sur les Americ. T. I. 48.)

To the above list I do not add the Lobelia Siphylitica celebrated by Kalm and Bastram (Lin. Amœn. Acad. T. IV.) the Celastrus Inermis praised by the former (Mem. de l'Acad. de Stockholm an. 1750.) nor the sixty simples of the Mexicans (de Pauw Rech. sur les Americ. T. I. 22.) all said to have been successfully employed by the same race in the cure of Siphylis, because the real powers of these substances have not been properly verified by European trials. At the same time, it would be hard to assert that the old Americans possessed no remedy whatever for this their indigenous malady, and that all evidence to the contrary, however vouched, must be rejected, as the recovery of Cortez by the skill of the Mexican physicians after his own had failed (De Pauw ib. 26.) that of the Spanish Captain Gonsalvo Ferrand (Luisin. aphrod. p. 355, ed L. B. 1728.) its successful treatment by the Knistenaux with their native simples, (Mackenzie Voy. XCV.) &c. If it be denied that the above and other antisiphylitics of America are capable of eradicating the

true venereal distemper, it must be at least granted, that they are not altogether useless, and that they are frequently capable of removing, or alleviating various symptoms that follow, or accompany, this species of infection.

The Americans are not the only rude people to whom we are indebted for some of our ordinary remedies. As an example, the Purgative, Rhubarb, is said to have been in use, time immemorial, amongst almost the whole wandering hordes of Scythia, and if we believe Coxe, its appellation Rha, adopted alike by Greeks and Arabians, is a Tartar vocable.

Various barbarous races of the old world, discover a proficiency in the *Materia Medica*, no less remarkable, than that exhibited in the New. Among those of Africa deserving this praise, may be mentioned many tribes on the western coast, and on the east, the Madacasses, or islanders of Madagascar. For the attainments of the first, namely, the Bulloms and Timmanees, the Mandingoes and Foolahs, the Soosoos, and people of the Kroo and Gold coast, I am happy to cite the authority of a gentleman deeply versant in his profession, and fully competent to every observation, Dr. Winterbottom, Physician to the benevolent settlement of Sierra Leone. (Winterbott. Sierr. Leon. vol. II. p. 11, 42, 46, 49, ch. 2.) One of the native remedies of the Kroo coast, the astringent and sweetish bark of the *Rondeletia Africana*, employed among the negroes for dysentery, was found extremely serviceable by Dr. Winterbottom in diarrhæa, and by Dr. Willan, not only in dysentery, but in ague, common fever, and sore throat. To prove the acquaintance of the Madacassees with the powers of the *Materia Medica*, (see *Hist. Gen. des Voy. T. VIII.*) where may be found, extending from page 607 to page 619, an ample list of medicines in use among them, when first visited by Europeans. As examples of Asiatic rude communities distinguished for the same species of knowledge, may be noticed the Sumatrans,

the people of Macassar or Celebes, together with those of the Philippine Archipelago. Regarding the first, a long list of powerful simples is given by Marsden. (*Hist. of Sumatra*, p. 90, 91, 92.) Speaking of their advances in practical medicine, the learned and respectable author observes, that "the Sumatrans have a degree of knowledge in botany that surprises an European. They are in general, and at a very early age, acquainted not only with the names, but the qualities and properties of every shrub and herb amongst that exuberant variety with which those islands are clothed. They distinguish the sexes of many plants and trees, (the *Papa* or *Caleekee* for instance,) and divide several of the genera into as many species as our professors. Of the *Facou*, or *Fern*, I have had specimens brought of twelve varieties, which they told me were not the whole, and to each there is a distinct name." (*ib.* 90.) Of their application of these herbs to the cure of diseases, Marsden speaks in the same high terms. Fevers, he adds, are treated among them with the hot-bath, and if that fail after three or four trials, with the cold affusion. Local pains and swellings they dissipate after a manner common to many rude nations, long continued sweating by the application of watery steam to the naked body, covered up with many cloaths, or by sitting in the sun at noon, wrapped up in a thick mat, *ib.* 163.—For the advancement of the people of Macassar, or Celebes, in similar pursuits, see *Hist. Gen. des Voy.* T. X. 460. As for those of the Philippine Archipelago, two vols. folio, of native recipes with their uses, were collected by George Carroll, formerly Apothecary to the Spanish College of Manilla. (*ib.* 419.)

Notwithstanding these testimonies, so far as the Madagascars, and people of the Indian isles are concerned, one remark ought not to be omitted. All the attainments in physic reached by these islanders, must by no means be imputed to the present races, or even their immediate progenitors. Much,

without doubt, is to be ascribed, in the case of Madagascar, to Arab intercourse, in that of the Indian islands, to ancient Hindu colonization.

(4) All nations, of whom any records have been preserved, appear, at some period of their history, to have been guilty of the crime of offering up human sacrifices. For proof of this accusation, so far as regards the communities of the ancient world, see the extraordinary treatise of Bryant, entitled, *Ἀνθρωποθυσία καὶ Τειχοθυσία*, or as it may be translated, "the Sacrifice of Adults and Children." In Asia, we find addicted to this enormity, the Persians, Tyrians, people of Palestine, Massagetæ, Scythians, Asiatic Sarmatians, Albanians, Ionians, islanders of Rhodes, Cyprus, Chios, Lesbos, Tenedos; in Europe, the Romans, Gauls, Germans, Pelasgi, Spartans, Cretans, Phocians, people of the Tauric Chersonese, Messenians; in Africa, its two most considerable nations, the Egyptians and Carthaginians. (Bryant *Observat. et Enq.* p. 267.) Various additions might be made to this list if necessary. With respect to modern communities, it were easy to show that they are no less reprehensible in this respect than those of antiquity. The discovery of America, as well as groupes of islands situated in the South Pacific Ocean, and lately included under the common name of Polynæsia, have added greatly to the list of countries accustomed thus to stain their altars with human blood. In Mexico, particularly, this abominable rite appears to have arrived at the most shocking excess. By the most moderate calculation, the number of human victims, in this part of America only, amounted, annually, to above 2000 persons. (Robertson's *Hist. of Amer.* V. III. 314.) In giving an account of the ceremony as performed by the Mexicans, it is related, according to the old English translation of Acosta, "that the high-priest opened the stomach of the victim with a knife made of a large and sharp flint with considerable dexterity and nimbleness, tearing out

the heart with his hand, which he elevated smoking towards the sun, to whom he did offer it, and presently turning towards the idol, did cast the heart towards it*." The prisoners whom the North American Indians are accustomed to put to death after previous torture, may be regarded as so many sacrifices immolated to the manes of their dead companions in arms. As well as in America, the offering of human sacrifices has been found by Cook, and other navigators, to prevail throughout the whole of Polynæsia. In one morai of Otaheite, Cook counted no less than 49 human skulls so fresh as to inspire the belief that the whole of the unhappy owners had been offered up at one time. Vol. II. ch. 2.

In the Sandwich islands, we learn from the same authority, that the priest is provided with a knife of a peculiar construction, for the purpose of cutting out the fleshy part of the belly. (ib. 211.) Like instances of Anthropthusia may be pointed out in the other three quarters of the globe. The peaceful, and now solely phytivorous Hindus were unquestionably, at one time, both cannibals and immolators of men. (See what is termed the Rudheradhyaya or sanguinary chapter in Asiat. Res. vol. V. p. 371, Works of Sir W. Jones, vol. I. 377, translation from Indian paper by Mr. Newnham, in Ess. of Students of Fort William, Bengal.) Other Asiatic races are equally liable to the same imputation, as the Chinese (Martini Hist. Sinic. L. III. 75. Maur. Ind. Antiq. vol. V. 804;) the Calmuc and Mancheou Tartars; (Hist. Gen. des Voy. T. VII. 33;) the natives of the Philippines; (ib. T. X.

* This Mexican practice may be said to evince no inconsiderable knowledge of dissection. For extracting the human heart, it will be found a quicker method to plunge the knife, like the high-priest, into the stomach, perforate the diaphragm, and tear out the viscus through the opening, than to cut the vertebræ of the ribs, and raise the sternum in the common manner.

422. Marsden *Hist. of Sumatra* 257;) those of the island Celebes or Macassar; (ib. 470;) those of Borneo; (Forr. *Voy. to New Guin.* 390;) those of Liqueó; (P. Gaubil in *Lettr. Edif. et Cur.* T. XXIII. 182;) those of Canisca (ib. T. VIII. 41.)

Nearly the whole barbarous Communities of Africa are accustomed to sacrifice slaves in honour of their Deities, Chiefs, or Princes, as the people of Issini, a country situated to the south of the Cape of Palms; (*Hist. Gen. des Voy.* T. III. 434;) those of Dahomy, of whom the King, Snelgrave relates, offered up 4000 war prisoners in the short period of three weeks; (ib. 420;) those of Mesurado; (ib. 583;) the Quojas, a people behind Sierra Leone; (ib. 598;) the inhabitants of the city Orobo, in Benin; (ib. IV. 414;) the people of Ardra; (ib. 392;) of Monomotapa; (ib. T. V. 227;) of Fotu, to the west of Cape Corse, where Barbot says there is held a regular market for slaves to be immolated at funerals; (ib. T. IV. 154;) of Loango; (ib. 392;) those of Congo; (ib. 645;) the extensive nation of the Jagas; (ib. 103.)

When we look nearer home, we will find the ancestors of the present most enlightened nations of Europe no less implicated in this horrid rite of superstition, than the various barbarous communities of Asia, Africa, and America. The human immolations of the Celtic and Gothic tribes, are well known. For proof against the first, see among many other instances, *Lucan Phars. L. I. v. 444*, *Cæs. de Bell. Gall. L. VI*; against the latter, *Mall. Introd. to Hist. of Denm. V. I. 96*, *Sax. Gramm. L. X. Worm. Mon. Dan. L. I. 28*.—The above instances will serve to show how universally prevalent over the world has been the custom of sacrificing human victims, and how extensively therefore this method of acquiring anatomical and physiological knowledge, detestable as it is, must have been laid open to mankind.

It is chiefly the Savages of North America, who have incurred the guilt of deliberately torturing their war prisoners. In the course of such torments, various physiological facts could hardly fail of springing to light. It would be discovered, more particularly, what parts of the body were endowed with the highest degree of sensibility, and what portions were the most essential to life. Charlevoix has described with minuteness the various modes of exercising this despicable species of revenge. (T. I. 236, -37, -38, -39. T. III. 244, and many other places of 16th letter.) The Savages, he informs us, are universally acquainted with the vital organs, so as regularly to avoid them in the wounds they inflict.

From the writings of Homer, (Odys. L. IX. v. 291, L. X. v. 116,) it may be conjectured to have been the opinion of the Poet, that in the first ages, or what is called the state of nature, it was customary for men to devour one another. The history of savage tribes unhappily too well confirms the position, and cannibalism may be pronounced no less universal, over the uncivilized world, than the oblation of human victims. It is even a supposition by no means improbable, that the last of these crimes proceeded from the former. In their assimilation of the divine to the human nature, men continually seek to propitiate the Deity, by offerings they are conscious would be agreeable to themselves. Among presentations at the altar, that of food has ever constituted a principal part, and the choice of provision would depend upon the notions of alimentary excellence that happened to prevail in the minds of the pious. Among a race of Anthropophagists, human flesh, as highly prized, might be deemed an offering worthy the Divinity. It may perhaps be for this reason that human sacrifices and cannibalism are found so frequently to exist together, so as, almost always, to stain the annals of the same people. With respect to the universality of the last of these enormities, a writer well acquainted with

the history of ancient nations, as well as the modes of savage life, has asserted "that there are communities both in Asia, Africa, and America, who hunt men as we do wild beasts. They endeavour to take them alive, carry them to their huts, and kill them when they find themselves pressed with hunger*." (Gog. Orig. of Laws, V. I. 79. and author.) As further evidence to show the extensive prevalence of cannibalism, numerous other facts may be adduced from the most authentic sources. In America, when first discovered, this species of barbarity was found to exist every where without any exception. (Robertson Hist. of Amer. V. II. 115, and author,) Against other parts of the New World, later navigators have brought to light, a like accusation holds equally good. Cook relates that when he lay at Nootka Sound, the inhabitants brought for barter, human heads, arms, and hands, which evidently were half-roasted. (Cook's Voy. V. II. 271.) The same atrocity prevailed in the Sandwich and Friendly Islands. (Ib. 201, 202, 209, V. I. 374.) It was also found in Greenland. (Crantz Hist. of Green. V. I. 193, 194, 267, 270.) According to Orme, there are still cannibals in the woods of India. (Orme Hist. of Hind. p. 6.) Among the Battas of Sumatra, the Gueos of Cambodia, and the people of the Carnicabor Isles, Marsden assures us, Anthropophagism still prevails. (Marsd. Hist. of Sumat. 301, note.) In the kingdom of Anzico, situated to the north of the great river of Congo, human flesh is regularly exposed for sale in the markets, joints of slaves being a common food. (Hist. Gen. des Voy. T. IV. 49.) The same custom is followed among the Mumbos of Monomotapa, (Ib. T. V. 227,) and the great nation of Jaggas, said to extend from the west of Abyssinia, to the Cape of Good Hope. (Ib. T. IV. 103.) To the Antropophagists of the

* *The natives of Cumana and New Granada used to castrate the children intended for eating, in order to render the muscular parts more tender. (De Pauw. Res. sur les Americ. T. I. 224.)*

same regions may be added the people of Dahomy, Gango, of Great Drewin, (Winterbott. V. I. 162, -63, -64, -65, -66,) and of Maniana, to the south of Bambarra. (Park's Trav. 324.) Nor is it in the savage countries of Africa, Asia, and America, only, that the crime of cannibalism has been practised. A similar stain attaches nearer home, and indelibly adheres to the Gothic and Celtic races of the British Isles. For the men-eaters of the Irish, see Strabo; (L. IV. p. 201;) for those of the Scots, we possess the ocular testimony of Jerome, adduced not without satisfaction, by Gibbon. As this passage extracted from the author of the Vulgate is not a little curious, I will set it down entire. "Cum ipse adolescentulus in Gallia viderem Attacottos, Gentem Britannicam, humanis vesci carnibus; et cum per sylvas porcorum Greces, et armentorum pecudumque reperiant, pastorum nates, et feminarum papillas solere abscindere; et has solas ciborum delicias arbitrari. (T. II. p. 75.)

HISTORY OF MEDICINE

IN

ANCIENT TIMES.

BOOK I.

Disquisitions regarding the Condition of Physic, during Primary Periods of the World, or those Ages that precede the Rise of Letters and Philosophy in Greece.

To those who seek to trace the history of human knowledge, sufficient evidence will appear for that opinion which has placed the origin of all arts and sciences in the east. The countries of that part of the world, it is well known, far exceed in fertility the most favoured portions of Europe. In the former regions, therefore, it becomes reasonable to believe, that as men would encounter the fewest difficulties in procuring subsistence, so they would be soonest freed from the necessity of bodily labour, and consequently, earliest at liberty to bestow

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attention on those facts and observations on which are founded the beginnings of arts and sciences. But though the stream of knowledge, be thus admitted to have flowed from the east, yet in what particular territory it was to derive its source, appears a question more difficult to decide. Three rival nations are observed, on this occasion, to enter the lists for pre-eminence, and amidst their nearly poised pretensions, it becomes no easy task to award, with unerring hand, the palm of antiquity *. It may at least be concluded, however, from the doubtfulness of the contest, that for the first improvement of the world, no narrow spot ought to be assigned. In truth, it becomes less hopeless to compromise, than settle, the claims of the disputants, and for the former purpose, if a line be drawn eastward, commencing at the north-west extremity of Lesser Asia, skirt the southern confines of Tartary and Tibet, till it cross the Ganges, then bend southward along the Coromandel coast to Cape Comorin, and Ceylon, afterwards return westward along the shores of the Indian Ocean to the Straits of Babelmandeb, pass the Arabic Gulf, and include within its sweep the kingdoms of Ethiopia, and Egypt, till finally

* The three rival nations alluded to here, are the Hindus, Iranians, (the Assyrians, Babylonians, and Persians of the Greeks,) and the Egyptians. I purposely exclude the Chinese, notwithstanding their antiquity, and the authority of Voltaire, for a reason to be assigned in the Notes.

winding along the eastern margin of the Mediterranean, it attain the point where it first set out, such a compass of the east will be included, as to conciliate, if not satisfy, each respective title, and to whose ample domains we may, at the same time, safely enough assign, both the primeval seats of knowledge, and the cradle of our race *. This

* This noble and extensive portion of the world, surrounded as it is by the ocean, and so many seas, among the ancient Greeks, would have been termed a Chersonese. To save circumlocution, I shall beg leave to stile it the *Primeval Chersonese*.

Several authors, I am aware, place the origin of mankind and civilization in much more northern latitudes, some even under the precincts of the north pole. Among these last, the two chief are to be accounted Olaus Rudbeck, who derives both from his native country of Sweden, and the late learned and ingenious, but unfortunate Bailly, who taking a wider range, deduces them either from the coasts of the frozen ocean, particularly the Bay of Oby, or from the shores of Iceland, Greenland, Spitzbergen, or Nova Zembla. Rudbeck's work, which is entitled *Atlantica, sive Manheim, vera Japheti posterorum sedes ac Patria*, and which extends to 4 vols. folio; though the last was never printed, I have had no opportunity of examining; but the Letters of Bailly, *sur l' Origine des Sciences*, and *sur l' Atlantide*, I have perused twice over with great pleasure, and not without a lively admiration of the skill and dexterity with which he has managed the feeble materials of his argument, consisting principally in the remaining details of ancient mythology and astronomy. To obviate the paradoxical appearance of his system, or to explain the

seems a conclusion in which belief may with sufficient confidence repose. Besides other evidence, it is one that will be found warranted by the whole tenor of ancient history and tradition.

present inhospitable state of the regions where he has placed his Atlantides, compared with its pristine condition, he assumes a gradual diminution at the north pole, of the high temperature, originally, as supposed, communicated to the globe, the *central heat* of Mairan, and *incandescence* of Buffon, dogmas, I believe, first started by Des Cartes, who used to stile the world "un soleil encroute," though still essential to the reasonings of the modern Vulcanist.

In reality, the only solid argument for the theory of Rudbeck and Bailly, is to be looked for in the remains of tropical vegetables and animals that continue to be found in high northern latitudes, but ill accounted for, as is commonly done, when we consider their entire and unmutated state, by the agency of the deluge.—Still, however, whatever evidence can be brought for the existence of the old Atlantides, must be considered as extremely defective, or even superfluous. We know, beyond contradiction, that within the pale of the primeval Chersonese, there flourished nations, distinguished, even as far back as the uttermost verge of history and tradition, for considerable civilization and knowledge, and which were unquestionably the instructors of the west; and to suppose that for such advantages, these nations were indebted to some previously more enlightened people, is merely to change a certainty for an uncertainty.

Captain Wilford, so well known for his learned researches into the origin of nations, has placed the celebrated mountain Meru, the Indian Olympus, among the hills of Lesser Bu-

Whatever credit, however, may appear due to that opinion which has placed the common origin of man in the east, it might be at least difficult to allot for him other habitations more suitable to commencing population, or more likely to foster the first and feeble infancy of his kind. No other part of the earth abounds, naturally, with such number and variety of trees that bear a nourishing and delicious fruit. Besides the Banana *, Plantain †, Artocarpus ‡, and Mellori §; besides the Coco, Date, and Sago Palms, with other nutrient species of the same noble order of plants, the glory of tropical climes, every *Berry*, *Drupe*, *Gourd*, or *Pome*, (a few excepted,) that is known to ripen a grateful mixture of sweetness and acidity in its juice or pulp, with every vegetable almost that boasts an esculent *foliage*, *sprout*, or *root*, are to be accounted denizens of the soil, and are found to flourish, in the utmost luxuriance, without the aid of cultivation. Nor would

charia, and he assigns a similar site for the garden of Eden, with its four rivers, according to him, the Ganges, the Sita, the Oxus, and Jenisey. (Asiat. Res. vol. VIII. 313, 321.) This elevated tract, it may be remarked, is one of the successive establishments (plateaux) Bailly has fixed on for his Atlantides, in their gradual migration from north to south.

* Musa Sapientum.

† Musa Paradisiaca.

‡ Artocarpus Incisa, bread fruit tree. Artoc. Integri folia, Jack.

§ Pandanus Leram of Sir W. Jones.

the resources of primitive man, even in that remote age when he possessed no other mean of subsistence than what is derived from the spontaneous products of the ground, be confined to this fund of aliment, copious as it was. The choicest of those seeds, both *culmiferous* and *leguminous*, that are observed to include, within their minute cells, an abundant store of amylaceous matter or farina, the most essential of human food, it is well known, are indigenous to the east, while to the same parent region may be also traced the principal of those plants which furnish by their stems or cotyledons, either in greatest quantity, or under the purest forms, the other three grand alimentary principles of *sugar*, *mucilage*, and *oil*. Meanwhile, in these happy climes, vegetation was never to be checked by the rigours of European winter. Each revolving season was to present its peculiar stores of nutriment; the food of phyti-vorous man might be varied, but could not be exhausted, and such was the unbidden profusion of nature as not only to fulfil all the calls of necessary subsistence, but even to satisfy the demands of the most luxurious appetite. Certain vegetables, it is true, there are, which refuse to flourish under a tropical sun, but the wide extent of the primeval Chersonese was to supply, in the convenient inequality of its surface, every necessary variety of sky and climate. Whatever plant therefore delights in a temperate atmosphere, might find here

an appropriate place of growth. The most boasted species of Europe are accordingly to be detected in the higher regions of Africa and southern Asia, and the vine, the fig, and the olive, are observed to deck with their invaluable fruits, the sloping hills and more elevated tracts, of the eastern world. —Other stores of nutriment would soon be provided to the ancestors of our race. The same oriental regions abound with all those creatures, whether wild or domestic, whether inhabitants of the land, air, or water, which are known to afford in their solid or fluid parts, a wholesome nourishment for man; and the esculent treasures of the animal, would thus be speedily conjoined to those of the vegetable, kingdom. Commanding such ample means of subsistence, population during the first ages would proceed with rapid steps. It would soon outstrip its own resources, however assisted by the new occupations of the hunter and the fisher, the shepherd and the herdsman. Hence a fresh motive of industry would arise; attempts would be made in various ways, to improve the energies of vegetation, and the unbidden fertility of nature would be augmented a thousand fold, by the arts and contrivances of agriculture. To agriculture would succeed property in land; different manufactures would be devised, and society in the east, abandoning by degrees its savage aspect, would assume the appearance of commencing civilization. Rich countries, it is well known,

rush with rapidity from the agricultural to the commercial condition, and that such transition actually took place, during the most remote period, in the east, may be received as an incontrovertible fact, founded alike on the truth of sacred and profane history. For this maturity of traffic in the oriental world, two causes may, with probability, be assigned; one, the uncommon facilities afforded, to every species of commercial intercourse, by the physical structure of the primeval Chersonese; the other, the strict international connection subsisting among its possessors, and springing out of consanguinity, or the ties of a common kindred.

If a survey be taken of the extensive domain formerly allotted as the primordial habitation of man, few other portions of the globe will be found so happily accommodated to all the purposes of trade and commerce, whether foreign, or domestic. A single inspection of a map will be sufficient to verify this assertion. Surrounded nearly on all sides by the sea or ocean, the most abundant channels of navigable depth, in different directions, pervade its interior, and four of the noblest rivers of the ancient hemisphere, may be perceived to intersect with their mighty currents, and tributary streams, at once its eastern, its western, and its central provinces. That the advantages thus afforded for internal commerce were

neither unperceived, nor neglected, by those who inhabited their banks, we possess sufficient evidence. The Egyptians, and Hindus, in particular, are well known to have carried on an extensive domestic barter by means of those divaricating branches that constitute the mouths of their two celebrated rivers, the Ganges and the Nile. So well aware indeed were both people of this source of opulence, that whatever seemed wanting in the natural distribution of the water here, appears to have been very early supplied by art. Numerous canals, their history informs us, were excavated in the alluvial territory, not only with the view of opening new channels of communication, but that of connecting the neighbouring streams; and it is no less certain that these, time immemorial, were directed to a profitable interchange of commodities, than employed for irrigation, or as a beneficial, and powerful instrument, of agriculture*.

* So early as the reign of Sesostris, that is, at the very beginning of the monarchy, Egypt was so intersected by canals as to be impracticable for cavalry, or chariots of war. (Herod. II. 108.) That these canals even at the same primeval age were constructed for internal traffic, no less than irrigation, is learned from Diod. L. I. c. 57. According to Savary, there are still in Egypt eighty canals, several of which are twenty, thirty, and forty leagues in length. The very ancient interamnal commerce of the Euphrates and Tigris is also celebrated by Herodotus, and Diod. Siculus. (Herod. L. I. 185, 193. Diod. L. II. c. 11.

A more copious source of riches was to accrue in the east from the extensive circuit of its foreign trade. The ties of a common kindred, subsisting as already stated, among its different nations, were no less favourable to a commercial than a friendly intercourse, the former of which was soon to attain a vigorous growth from the developement of mutual wants, and the possession of mutual wealth. As we contemplate the primæval Chersonese, at one extremity may be perceived to extend the opulent countries of India, at the other rise to view the prosperous and magnificent marts of Tyre and Sidon, while the rich territories of Ethiopia and Egypt, of Arabia and Iran, lie contiguous, or between. Of the international commerce exercised during the most remote times among these different regions, we enjoy no less satisfactory proof, than of their domestic barter. The difficulties of internal communication presented by those wastes of sand, which like so many seas, insulate or surround the districts of the east, experience seems early to have taught the means of surmounting by the persevering strength, and physiological structure of the camel*,

* "Of domestic animals the only one that can endure the fatigue of crossing the desert, is the camel. By the particular conformation of the stomach, he is enabled to carry a supply of water sufficient for ten or twelve days; his broad and yielding foot is well adapted for a sandy country; and by a singular motion of his upper lip he picks the smallest leaves from the

nor is it likely that those powerful atmospheric currents, distinguished under the name of *monsoons*, well known to hold their course with such stedfast regularity over the tropical ocean, would long escape the notice of the eastern mariner.

theray shrubs of the desert as he passes along. His flesh is preferred by the Moors to any other, and the milk of the female is found sweet, pleasant, and nutritive." (Park's Trav. 237.) To the above just and lively description by Park, or rather his editor, Bryan Edwards, it may be added, that the mouth of the camel is so fortified by thick cartilage, that he experiences no inconvenience from cropping his ordinary fare the plants of the desert, covered as they almost all are with sharp prickles, and can even subdue the strong spines of the *Colutea Spinosa* itself†. Like other Ruminants, he has four stomachs, and the second seems entirely destined as a reservoir for water. It is so contrived, that after the food has been a second time masticated, it passes down without entering its cavity directly into the fourth or digesting stomach, so as to leave the fluid of the second as pure and transparent as when it was first swallowed by the animal. See Dissect. of Camel by Home, in Phil. Trans. for 1806, Part II.

The individual subject dissected by Mr. Home, used to take in, before death, at least six gallons of water every second day, sometimes seven and a half, but could never be induced to drink oftener. When a camel dies in the desert, the Arabs frequently pierce its stomach, in order to obtain the collected fluid. Four gallons were thus procured, on one occasion, from a slaughtered camel, by Bruce. This useful quad-

† In describing this shrub of the wilderness, Forskal styles it "*omnium spinosissimam*." *Egypt. Flor.—Arab. Cent. V. 7.*

Their safety and uses once known, the spirit of trade would be eager to seize an advantage so favourable to its purposes. Hence the natives of the east soon began to display the character and enterprise of merchants. A mutual and beneficial traffic speedily arose betwixt the countries of Central and Eastern Asia with those of Arabia, and the whole range of Eastern Africa. What of the way betwixt these distant regions it was necessary to traverse by water, was readily passed by the forceful, but safe guidance, of the trade winds. Whilst a steady gale wafted, one part of the year, the gems and the silks, the cottons and the perfumes of India across the Erythræan Sea to the ports of the Arabic Gulf; the precious commodities of the west, the gold and silver of

ruped seems to have been domesticated at the most early periods, and to have constituted the chief wealth of the inhabitants of those regions where it abounds. Thus, among the Midianites, as we learn from Scripture, a people bordering the Elanitic Gulf, and the great carriers, by their caravans, alike of the Arabic and Indian commodities, the herds of this creature were without number. (Judg. vi. 5.) And when these invaders were subdued by Gideon, a principal part of the spoil appears to have been the chains of gold, suspended by way of ornament at the camels' necks. (ib. viii, 21, 26.) The anatomical structure of stomach in two other animals, the dromedary and lama, destined in like manner to traverse arid wastes often destitute of water, is found to be the same with that of the camel. (See Home's Paper above quoted, and Cuv. Leçons d' Anat. T. III. 397.)

Sofala, and tin of the Cassiterides, the purple, blue, and embroidered garments of Syria, together with the fine linens and tapestries of Egypt, either stored up in the same emporium, or transported thither from the warehouses of Tyre and Sidon *, by the patient caravan, were to experience, in return, by the summer monsoon, a ready conveyance to the farthest shores of the east †. Arabia joined her valuable spices, her myrrh and frankincense to the list of precious merchandise, and furnished her hardy sons as the general carriers of those rich wares whose circulation was to augment the prosperity, and unite the advantages, at once of the oriental, and western, world.

Favoured by the conjoint influence of so many powerful causes, society in the east was to advance with a rapid progress. Neither wonder, therefore, nor incredulity need be excited as we contemplate the aspect of high civilisation presented by the oriental kingdoms, at the remote period they first become the objects of historical narrative, when it is perceived, at the early æra

* An extremely curious catalogue of the usual exports from Tyre, is preserved in the twenty-seventh chapter of Ezekiel. It is this invoice principally that I have copied here.

† For the extension of this commerce eastward beyond Cape Comorin, see Vinc. Perip. vol. II. 255.

of fifteen or twenty centuries before Christ, a time when the most polished nations of ancient Europe had not yet emerged from a state of barbarism, that the Iranians, Egyptians, and Hindus had already attained proficiency in agriculture, and acquaintance with numerous arts and manufactures, had rendered themselves skilful in policy, and versant in science, had coalesced into mighty empires *, as well as become the founders of magnificent cities †.

* The crowded population of primeval Egypt is celebrated by every writer of antiquity, though the territory, as is well known, be of no great extent. The empires of Iran and India, on the other hand, were not only extremely populous, but of prodigious dimensions. The following limits are assigned to each by Sir William Jones. Within the first, are said to have been included, under its primary dynasties, all those countries that lie betwixt the eastern shores of the Mediterranean and the Indies eastward; while on the south it had for boundaries the Indian Ocean, Persian Gulph, Euphrates and Tigris; on the north the rivers Cur and Gihon, the Caucasian Mountains, the Euxine and Caspian seas. (Jones' Works, vol. I. 74.) India again is asserted to have included an area on each side nearly of forty degrees, a space equal almost to the whole of Europe, being divided on the west from Persia, by the Arrachosian mountains, limited on the east by the Chinese part of the farther Peninsula, confined on the north by the wilds of Tartary, and extending to the south as far as the isles of Java. (ib. 22.)

† Thebes with its hundred gates, out of each of which might issue, if occasion demanded, a thousand warriors, is

Amid so many symptoms of matured knowledge and improvement, that the profession of healing which always keeps pace with other acquirements, had reached a proportionate degree of advancement, analogy alone might be deemed sufficient proof, but a surer evidence of the fact is afforded in the actual possession of various Asiatic compositions in this branch of learning. Numerous Indian Treatises on this subject, mounting in date to the high antiquity I mentioned, have happily escaped the depredations of time, and though those of Iranian and Egyptian origin have been unfortunately lost, yet such

sufficiently known to every reader of Homer. (Il. L. IX. v. 383.) Nineveh is calculated to have occupied ground seven times greater in extent than modern Paris. (Gog. Orig. des Lois, T. III. 55, Eng. trans.) The site of Babylon is believed to have been a square of twelve miles, so that it must have contained an area eight times greater than that of London, suburbs included. (Renn. Geog. of Herod. 341, note.) "The walls of Canoge built by a sovereign of India a thousand years prior to our æra, extended in circumference a hundred miles. (Maur. Ind. Ant. Diss. I. 36. Dow's Hist. of Hind. v. I. 16.) The very ruins of this immense place cover, at the present day, a greater space than the foundation of London. (Tenn. Ind. Recr. v. I. 369.)—It must not be imagined however that these oriental cities were ever peopled in proportion to their bulk. It was, and is still the fashion of the east to enclose in their towns, numerous and extensive gardens and plantations, even corn fields. Among other examples of this mode of building, see the plates of the Persian cities Erivan, Tauris, Sheeraz, in Chardin's Travels.

memorial of them has survived, as to place, beyond all denial, the reality of their former existence. With this consideration in view, it might perhaps be expected that I should immediately commence the history of physic with such details of our art as the records of the east may be found to supply. Against this plan of procedure however a forcible objection arises out of the nature of the present work. It was one of the original views of these disquisitions to delineate the infancy, no less than the advanced age of physic, and the former purpose, so far as the east is concerned, I possess no means of accomplishing. At the period when our art in that part of the world first begins to attract the attention of the medical antiquary, though it appears evidently to have reached no inconsiderable degree of proficiency, yet regarding the circumstances of its growth or origin few or no memorials have been preserved, or if such remain, they exist under a form not easily accessible to the western scholar. For a view of what might be termed the non-age of medicine, therefore, recourse must be had to the primary annals not of Asia and Africa, but of Europe. The tradition and early history of the Greeks involve ages, for simplicity and rudeness, without parallel in the cotemporary periods of the eastern kingdoms; they are on that account better calculated to exhibit those characteristic features healing may be disposed to assume among

an unlettered race, or during the first stages of society. What may be styled the Legends of Physic in Europe are besides peculiarly qualified for this purpose by their extreme copiousness, nor will they be found devoid of interest, either to the medical historian or philosopher. Leaving the physic of the east therefore, for future discussion, I proceed now to examine the condition of our art, such as it existed, during primeval times among the distinguished people I have now named, or to trace such facts regarding its origin and progress as occur to view, during that rude æra, which precedes the rise of letters and philosophy in the first civilised portion of the western world *.

* As I am aware that in what is said above of the primeval Chersonese, some additional illustration may be demanded, and to afford this, as well as save particular reference to the reader, I have thrown such further elucidation as seemed requisite into one continued Essay, which will be found at the end of these introductory notices. Of this dissertation the remarks pursuing the tenor of the text, will necessarily arrange themselves under the *three heads of Population, Product, Trade and Commerce.*



ESSAY

ON THE

PRIMEVAL CHERSONESE.

POPULATION.

I. THAT the population of Asia and eastern Africa preceded that of Europe, may be admitted as an incontestible fact. Six races or stems, seem, time immemorial, to have occupied this ample and favoured portion of the earth's surface, the CHINESE, the TARTARS, the HINDUS, the IRANIANS, taken in the largest acceptation of the term, or to denote those nations who inhabited betwixt the Arachosian mountains and the Mediterranean, the ridges of Taurus and Caucasus, and the ocean; the ARABS, and lastly the NILOTIC tribes, or Egyptians and Ethiopians, whom I shall presently demonstrate to be one and the same people. Among these aborigines the Tartars and Arabs never possessed any claim to priority of civilisation, and nearly the same assertion may be made,

though under more qualified terms, of the Chinese, since, if not proven, it seems rendered extremely probable by Jones, that this race was not *autochthonous*, but chiefly of Tartar descent, and more certainly, that they derived the first elements of their learning and knowledge from an Indian source *. The whole contest must necessarily rest therefore among the three remaining national stems, the Hindus, Iranians, and Egypto-Ethiopic tribes, those alluded to in the text. Much difficulty occurs, as has been stated, in adjusting the rival claims, and different writers, accordingly, have adopted different sides. Those who wish to see what can be adduced in behalf of the Iranians, may consult two Discourses of Sir W. Jones, that on the Persians, and that on the Families of Nations, both contained in the first volume of his Works. Among the ancients the same side is favoured by Aristotle, (Laert. Proem. Seg. 8,) and after him by Cicero. For the claims of Egypt see Diodor. L. I. c. 19, 28, and the Greeks in general; Mela I. c. 9. Plin. Hist. Nat. L. V. c. 9. Jones' Works, vol. I. 42, 43. Gentil. Voy. dans les Mer de l'Inde, T. I. 164, et alibi; Kircher and Desguignes; the two last at great length so far as China is concerned, have also advocated the cause of Egypt. For India the most strenuous champion, though not professedly, will be found

* Jones' Works, vol. I. Discourse on Chinese.

in Captain Wilford; see his two Essays, on Egypt and the Nile, and on the Chronology of the Hindus, in *Asiat. Res.* vol. III. and V. To the same purpose may be quoted a circumstance mentioned by Bryant in his *Analysis of Ancient Mythology*, vol. II. 150.

In spite of every thing adduced by these writers, it will be found safer to abide by the compromise in the text, more especially since it seems susceptible of nearly perfect proof that the whole three nations in question were merely so many separate branches of one and the same individual race, or family of mankind. Such certainly they were accounted by the Greeks who used to bestow the common name of Ethiopians on the whole inhabitants of the primitive Chersonese, more especially those who occupied its easternmost and south-westernmost portions*. Besides this circumstance, arguments to the same import are deducible from four several sources:

I. Traditional and historical record;

II. Identity of language and written character;

* (Diod. L. III. c. 15. *Univ. Hist.* vol. XVIII. 253, &c.)

The former styles by the name of *Ethiopians* all the nations that lie betwixt Gedrosia and Caramania, and the Straits of Babelmandeb, &c.

III. Conformity of religions and philosophical opinion;

IV. Similitude of corporeal structure.

I. It is above asserted that the whole possessors of the shores of the Nile, from the Mediterranean to its source, or in other words that the Egyptians and Ethiopians were originally one and the same people. This is an affirmation that will be found verified by the traditional and historical records of both countries. See Diod. L. III. particularly c. 5 and 6. The Egyptian priests with whom he associated, in spite of national vanity and prejudice, owned to the traveller and compiler their descent from Abyssinia. (ib. c. 11.) They acknowledged likewise the derivation of their laws, hieroglyphical and alphabetic characters, their more peculiar customs, as circumcision and embalment, their priestly polity, and even dress of their sacerdotal tribe, from the same quarter. He quotes further the authority of Agatharchides the Gnidian in his History of Asiatic Affairs, and of Artemidorus the Ephesian in his Geographical Works. (L. II.) What he learned from the Cohens * was more amply confirmed by various respectable natives of Ethiopia he met and conversed with in Egypt.—For additional proofs see

* The Priests or Sacerdotal tribe of Egypt.

Mem. by Fourmont in Hist. of Acad. of Inscript. T. VII. De Pauw Rech. Phil. sur les Egypt et Chin. T. I. 275. T. II. 109. Fath. Gobien in Lettr. Ed. et Cur. T. III. 388. and Bochart both in his Phaleg and Canaan. The great seats of Ethiopic learning and science were Axum and Meroe, more especially the latter. The first Abyssinian colony settled in the Thebais, and built Thebes*. When Bruce surveyed the ruins of Axum, the hieroglyphics discovered by him in its caves, were found identical with those of Egypt.

That an early affinity existed betwixt these Troglodytic tribes, and the possessors of the eastern extremity of the primitive peninsula, the Hindus, is learned from the traditions of the latter. The Purans† assert the mission of colonies

* From a fact recorded by Herodotus it appears that so late as the time of Cambyses, the language of this Abyssinian colony still continued to be current in the highest parts of Egypt, though probably obsolete in other places of the country. Thus when the Persian monarch had formed the scheme of invading Ethiopia, and wanted a number of persons skilled in its dialect, and therefore qualified to act as spies, he despatched messengers to Elephantine, and was immediately supplied with a sufficient multitude of individuals such as he demanded. (Herod. L. III. c. 19.)

† What are called the Puranas or Purans of India, are a series of mythological histories in blank verse, extending from the creation to the incarnation of Buddha. (Jones' Works, vol. I. 93.) See farther account in vol. VI. p. 445, by Lady Jones.

alike to the Ethiopian and Egyptian Nile, and it is added that the new colonists brought along with them the four Vedas, together with the Yacksha letters, or that variety of Nagari characters employed time out of mind in the mountainous regions of Tibet and Boutan. Their principal settlement was the peninsular and fertile district of Meroe *. This identity of the Nagari and Ethiopic alphabets is confirmed by the circumstance of both being founded on a syllabic system, and both being written from left to right, and still more by accurate comparisons instituted by Sir William Jones, betwixt the latter, and numerous inscriptions from pillars and caves, collected, and sent to him from all parts of India. The same high authority adds, " It has long been my opinion that the Abyssinians of the Arabian stock having no symbols of their own to represent articulate sounds, borrowed those of the black pagans whom the Greeks called Troglodytes from their primeval habitations in natural caverns, or in mountains excavated by their own labour: they were probably the first inhabitants of Africa; where they became in time the builders of magnificent cities, the founders of seminaries for the advancement of science and philosophy, and the inventors, (if they were not rather the importers,) of symbolical characters. I believe on the whole

* Wilford on Egypt and Nile in *Asiat. Res.* vol. III.

that the Æthiops of Meroe were the same people with the first Egyptians, and consequently, as might easily be shown, with the original Hindus." vol. I. 115, 116.

To prove the alliance of kindred betwixt India and central Iran, a new and singular document is furnished by the same orientalist. From this record it is learned, that in times the most remote, long previous to Cayumers and the Assyrians, there flourished in this latter region, a hitherto unheard of, but potent monarchy, splendid in arts and arms, as well as extensive in territory, and distinguished from the name of its patrimonial rulers by the name of the *Mahabadian* empire. This dynasty is asserted to have consisted of fourteen *Mahabads*, Sovereigns, Saints, or Legislators, existing, or destined to exist, exactly similar in function as in number to the fourteen *Menus* of India; to have distributed its subjects into precisely four principal casts, such as have flourished time immemorial in Hindustan, and in short to have furnished in all respects, the original type on which was afterwards founded the whole system of brahmanical authority erected on the banks of the Ganges. (Jones' Works, vol. I. 78, 88.) To establish the ties of kindred betwixt the people of Hindustan, Iran, Troglodytica, and those occupying the extreme shores of the Mediterranean, or the Phœnicians, traditional

evidence is not wanting. Hindu tribes settled at a remote age on the shores of the Erythræan Sea, the Persian and Arabic Gulfs, and afterwards migrated westward to Phœnicia. An accession of strength was derived from Egypt. A colony proceeded to the same seats, from the banks of the Nile, and under the auspices of its leader Cadmus, is said to have reared the two great commercial cities of Tyre and Sidon. See Herod. l. VII. c. 89. Bryant Anal. of Anc. Myth. vol. I. 324. Syncellus after Euseb. p. 126. Euseb. Chron. 27. Jones Disc. on Families of Nations in vol. I. of works.

II. If *tradition* alone be deemed too feeble to evince the asserted sameness of origin among the people of the primeval Chersonese, more powerful aid is derived from the *identity of languages and letters* observed to prevail throughout this extensive region. The Sanscrit tongue and Nagari characters are found to pervade the whole tract from the shores of the Ganges to those of the Nile and Mediterranean *. For this coincidence

* The Sanscrit is at once the sacred and aboriginal language of India. It has long ceased to be vernacular, or to be studied and understood by any class of natives but the Brahmans.—The characters stiled Nagari or Deva-Nagari boast an equal antiquity, and are employed solely for writing the Sanscrit. In the ordinary concerns of life, and in expressing the more modern dialects, new and different alphabets are

betwixt the speech of India, as illustrated by the names of places and deities, and that prevalent both in the south and north-western sides of the peninsula, see Wilf. on Egypt and Nile. Jones' Works, vol. I. 125, 259. A still more remarkable coincidence is perceived with respect to Iran. Thus out of the three languages originally spoken in the empire of Cyrus, two, the *Parsi* and *Zend* have been found entirely of Hindu origin, the first not only containing innumerable Indian roots, but agreeing perfectly in its structure and idiom with the old dialect of the Brahmins, the second so little varying from its ancient type, that six or seven words out of every ten were detected by Sir William Jones, the author of this singular discovery, to be neither more nor less than pure Sanscrit.—The alphabetic characters of India are no less widely diffused than its language. If the visible signs of speech employed throughout the whole of Southern Asia and Eastern Africa, be diligently compared together, they will be found to partake more or less of one common structure, and the Chaldean, the Hebrew, the Zend, the *Parsi* and *Pehlavi*, the Arabic, the Geez or Ethiopic, the Coptic, the Syrian, the Samaritan and Phœnician letters, may

had recourse to, though all founded on the original model of the Nagari, for in India, as in ancient Egypt, (Herod. L. II. c. 36,) two classes of letters are found to prevail, the one common and popular, the other scientific and priestly.

be pronounced, at bottom, only so many variations from the Nagari symbols of sound originally devised by the Priests of India *.

* Some singular mutations in point of arrangement were to await the Nagari characters after their transmission to more western regions. Thus, though written originally themselves from the left hand to the right, yet all the derived alphabets, the Ethiopic alone excepted, are observed to have followed a contrary direction, or to have been transcribed uniformly from right to left. After the migration of the same symbols of sound farther westward, or their arrival in Europe, we find this new plan reversed, and the ancient order renewed. Such change in the latter territory however is found to have been effected only by degrees. At first, as appears from many ancient monuments, the lines were traced alternately backwards and forwards, like furrows in ploughing a field, whence this mode of writing, among the Greeks, obtained the name of Boustrophedon †. In process of time this arrangement was laid aside, and the letters distributed uniformly from left to right, an order which the Greek, and all other European alphabets have ever since preserved.

Notwithstanding the high authority of Sir Isaac Newton, nothing seems more untenable than the opinion first promulgated by that great man, and embraced by succeeding writers, among the rest by Bruce and others, that the first invention of alphabetic characters is due to the Arabians, if by Arabians be meant the pure progeny of Ishmael, unassisted by Hindu

† *As an example, may be mentioned the inscription on the famous Sigæan pillar, brought into England, a few years ago, by Lord Elgin: the characters are all placed Boustrophedon.*

III. If even the slightest glance be directed towards the principal of those dogmas, religious and philosophical, that once prevailed throughout the east, the singular conformity they display, however distant the nations by whom they are professed, cannot fail to strike the eye of the observer. Sabæism, the grand doctrines of the Metempsychosis, immortality of the soul, and eternity of the world, element worship, more especially of fire, the adoration of various animals, in particular of apes and serpents, may be said to have constituted in ancient times the common creed and ritual of the whole circle of the primi-

colonies, or Iranian tribes, either intermixed with them, or settled in their neighbourhood. Letters appear to have been known at least twelve centuries previous to the Christian æra, and the Arabians were at this period much too rude to effect such a discovery, for till they emerged from their hills and deserts, under Mahomet and his successors, they can be considered in no other light than as mere barbarians. Prior to the same epoch their only historical compositions were the songs of their bards, and the first prose work they exhibited was their sacred book the Koran. The alphabetic characters in which the Koran was written were by no means the contrivance of any nation of the Arabic peninsula. They first saw the light, or at least were first used in Cufah, a city of Babylonian Irak, the ancient Chaldea, and it is for this reason that the old Arabic letters are still known under the name of the *Cufic*. The present Arabic alphabet which is derived from these old symbols was not in employment till the beginning of the tenth century. (Jones' Works, I. 41. V. 567.)

tive African, and Asiatic world *. That useful quadruped the cow, and the beautiful flower of the lotus, was viewed with equal reverence by those who cultivated the shores of the Ganges, and by those who drank the waters of the Nile. Egypt

* That the Egyptians worshipped the same gods with their progenitors the Ethiopians, viz. the Sun, Moon, the Universe, Isis, Pan, Hercules, and Jupiter, is attested by Diodorus, (L. III. c. 9,) and that both nations adored Hercules, Pan, and Isis, is recorded by Strabo, p. 1178. The doctrines of the Metempsychosis prevailed no less in Egypt, (Herod. L. II. 123,) than in Hindustan. Pausanias asserts that the Jews first learned the immortality of the soul from the Assyrians during the captivity of Babylon. A belief in the eternity of the world flourished equally among the Egyptians and Hindus, (See Jamb. de Myst. Egypt, c. II. p. 3. and the Indian epic poem Mahabarat translated by Wilkins.) In this last the god Kreeshna remarks to the hero Arjoon "Death is certain to all things which are subject to birth, and regeneration to all things which are mortal." (p. 37.) When Kreeshna discovered to Arjoon his real celestial form, it is said "The Son of Pandoo then beheld within the body of the God of gods, standing together, the whole universe, divided forth into its vast variety." (ib. 90.) Kreeshna afterwards adds, (p. 96,) "Well pleased O Arjoon, I have shown thee by my divine power, this my supreme form, the universe, in all its glory, infinite and eternal." The idea of the Indian bard, afterwards engrafted into their philosophy by the Platonists, is much more beautifully expressed by a poet of the west.

"*Spiritus intus alit, totamque infusa per artus*

"*Mens agitat molem, et magno se corpore miscet.*"

Æn. VI. v. 726, 727.

derived her mythology from Ethiopia; Greece and Italy drank largely of the fountain-heads of superstition disclosed to them in Egypt; complete similarity in the personages raised, time imme-

See further on the same topic Gentil Voy. dans les mers de l'Inde, T. I. 145. Bern. T. III. 162.) A similar doctrine, it is learned from the last writer, was maintained by the Persian Soufies. (T. II. 163.) As for the brute-worship of Egypt, it is too well known to require illustration. In India also many animals were revered as sacred, and the same superstition prevailed and still prevails in Ethiopia, thus when Bruce was at the head of the Nile, the pagan Priest of the river divined to him by means of a serpent. The Jupiter Ammon of Thebes was identical with the god of like appellation worshipped at Meroe, in which last city he had a celebrated oracle. (Herod. L. II. c. 29.) To the still more famous temple and oracle of Jupiter Ammon in the desert on the west of Egypt is to be ascribed a similar origin. It has been ascertained by Browne the traveller, and confirmed by the unfortunate Horneman, that the real site of this temple was the modern Oasis of Seewa. Its builders, the Ammonians, Herodotus informs us were partly Egyptians, partly Ethiopians. (l. c. 42.) In the remaining ruins of this edifice, were found by Browne the most clear and indubitable marks of the Egyptian stile of architecture.—Of Sabæism, or adoration of the heavenly bodies, the principal seats seem to have been the central regions of the primitive peninsula, Persia, and Arabia. In the last its early prevalence is attested in the book of Job; in the former it constituted, as is well known, the basis or essence of the national religion. Nor was it less prevalent among the Troglodytic and Hindu tribes. The deities whom Zoroaster in his theological system made to preside over the different planets, and

morial, to divine honours in India, with those elevated to the same rank by the two first polished nations of Europe, has been clearly demonstrated by Sir William Jones, and no mean argument in proof of identity of race among the scattered possessors of the primitive Chersonese, may surely be deduced from so remarkable a coincidence, so friendly a conformity of religious sentiment and opinion. (See Jones' Diss. on Gods of Greece, Italy, and India, in vol. I. p. 229.) That singular emblem invented in the east to represent the generative power of the deity, worshipped among the Greeks in the orgies of Bacchus, and the rites of the venus Urania, has been thought by some antiquaries peculiar to Egypt; latter inquiries have shown that it was a symbol of similar import, and no less ancient date, among the Assyrians, and Hindus. In the most cursory review of eastern opinions, were it possible to separate philosophical from religious

other stars, Sir William Jones informs us, were derived from the creed of the Brahmans; and the Ethiopians and Egyptians paid divine honours to various of the fixed stars as well as Asterisms. Among the former people, the principal divinities were the Sun, Moon, and Sirius; in Egypt the chief of the stated festivals appointed by the priesthood were evidently of Sabæan origin, as those of the sabbath, new moons, the winter and summer solstice, and of the vernal, and autumnal, equinox. (De Pauw Rech. sur les Egypt. et Chin. T. II. 186).

dogma, it might be further remarked, that in the oldest of their sciences, astronomy, the same methods of reasoning were pursued by the sages of the three great oriental monarchies, Iran, Hindustan, and Egypt. Thus it exists upon evidence that for ascertaining the different oppositions and conjunctions of the heavenly bodies, identical elements of calculation were employed by the Chaldeans and Brahmans; while for quartering the sky or horizon, the pyramid of Egypt, and pagoda of Hindustan, afforded to the astronomer or geographer, a no less ancient than ready instrument, at the two extremes of the primeval Chersonese.—To illustrate the association of kindred betwixt the Hindu tribes and those nations who flourished in remote times on the eastern shores of the Mediterranean, so far as can be evinced from parity of mythological institutions, little has been hitherto said, but not for want of materials. It may be with confidence asserted that the deities worshipped by the Syrians, Phoenicians, and Phrygians, discover evident marks of brahmanical origin. Thus concerning the Phrygians, though little is known, except their wealth and antiquity, both of which have been celebrated by Herodotus, yet has it reached posterity that their principal divinity was a Female, represented in the character of *Nature Personified*, and by them denominated the *Mother of the Gods*. Now the same personage has for ages been adored

in India. Nor is it unworthy of remark that the appellation of this deity is in Phrygian, and in Sanscrit precisely the same, namely Ma, that the drum she holds in her hand is expressed by the term dindyma in both languages, that she is represented by either people as crowned with a turreted mitre, and that while in India she is seated upon a lion, in Phrygia she is placed upon a car drawn by a yoke of the same animals. The celebrated Diana of Ephesus, and Astarte of Syria and Phœnice may be esteemed an identical deity, only with more limited attributes, and by their votaries considered merely to exhibit the productive powers of nature *.

IV. The equatorial parts of Africa have ever been deemed the native seats of men distinguished by the marks of a sable skin, thick lips, flat noses and woolly hair, and that Ethiopia was originally peopled by such a generation, abundant testimony is afforded by authors, both sacred and profane. The affinity of kindred that anciently subsisted

* Sir William Jones in illustrating the Hindu descent of the Phœnicians, Syrians, and Samaritans, adds these words, "I may on the whole assure you that the learned works of Selden and Jablonski on the gods of Syria and Egypt, would receive more illustration from the little Sanscrit book entitled Chandi, than from all the fragments of oriental mythology that are dispersed in the whole compass of Grecian, Roman, and Hebrew literature. (Vol. I. 125, 126.)"

betwixt those who cultivated the northern and southern banks of the Nile has been already mentioned as a fact verified by the whole tenor of Egyptian history and tradition, it may therefore be presumed that the former no less than the latter people were originally of negro race. However paradoxical it may seem, this position will be found supported by much and forcible evidence. Perhaps the positive though not direct testimony of Herodotus might be deemed sufficient for its confirmation without any other proof. That most inquisitive and sagacious observer, in arguing concerning the origin of the Colchians, evidently reasons upon it as an admitted opinion that the Egyptians were formerly distinguished for the same set of features with those of Ethiopia, in other words that the worshippers of Isis and Osiris were at one time black complexioned, and woolly headed, terms of which the last has never been applied except to that portion of our race whose peculiar residence is commonly supposed to be the tropical provinces of Africa*.

* We learn from Herodotus, that in his time, so far as was known, the whole of Africa was occupied by four different races of men, two *foreign*, and two *indigenous*. The foreigners were the Phœnicians and the Greeks, the indigenæ were the Libyans and the Ethiopians. By the Libyans are undoubtedly to be understood those tribes we distinguish by the name of Moors, by the Ethiopians such as we denominate negroes:

The observation of a modern traveller, no less curious and enlightened, though his name be odious to pious ears, may come in aid of the remark of the ancient Greek historian. The

and the same two races are known to divide betwixt them the whole of Africa at this moment, with some exceptions too trifling to be mentioned. Nor do the limits of their respective possessions vary much from what they were in the days of Herodotus. The common boundary of the Libyans and Ethiopians, in ancient times, may be placed on the west, at the southern-border of the great desert. Hanno in his Periplus, found the Ethiopians in possession of the western coast about the parallel of 19° , and Pliny (L. V. 31.) places them at five days journey beyond Cerne, the modern Cape Arguin, which agrees nearly with the report of Hanno. At present the negroes are not found higher up than the Senegal, or about 17° , and that only in the inland parts. On the east again, Ethiopia approached to the border of Egypt. (Renn. Geog. of Herod. 427—429.) The two native races of Africa in the words of Herodotus are, “*Λιβυαὶ μὲν καὶ Ἀθίοποι, αὐλοχθονες*” (L. IV. c. 197.) That by the Greek writers the term *Αἰθίοποι* was always employed to denote the same race we at present denominate negroes, the most complete proof may be afforded. Thus Herodotus in his reasoning to prove the natives of Colchis of Egyptian descent, observes that the former people are *μαλάνχροι καὶ οὐλότριχοι*, black skinned, and woolly headed, epithets of which the last has never been applied but to negroes. (L. II. c. 104.) The same author enumerating the various forces employed by Xerxes against Greece, names the Ethiopians of Libya. He adds, “*οἱ δὲ ἐκ τῆς Λιβυῆς οὐλότατοι τρίχοντες ἔχουσι πάντες ἀνθρώπων*, (L. VII. c. 70,) literally, “Those of Libya are the most woolly headed of mortals.” This last part of the description can be appli-

features of the celebrated sphinx, one of the oldest monuments of Egyptian sculpture, M. Volney found impressed with all the usual traits of the negro countenance, and there can be no doubt

cable only to negroes. But we know from history that the only Ethiopians conquered by Cambyses, and who could of course be employed in the army of his successor, were the Nubians, and hence the celebrated inhabitants of Meroe from whom the Egyptians derived their first civilisation, must unquestionably have been negroes, whatever they may be now. The testimony of Diodorus that the Greek word *Αἰθίοπες* signifies negroes, is still more precise and unequivocal. That author after detailing the manners and institutions of the inhabitants of Meroe, proceeds to observe, “that besides these, there exist numerous other Ethiopic nations, some of them inhabiting both banks of the Nile with its islands; others extending their possessions towards Arabia; a third set dwelling in the centre of Africa.” He then adds that the most of these nations, particularly such as live on each side of the Nile, are noted for a black skin, an ape visage, and woolly hair, the exact marks by which the race of negroes, is at present distinguished. To prevent all mistakes, I shall insert the original passage which is to be found in Lib. III. c. 8. “Οἱ πλεῖστοι δὲ τούτων, καὶ μάλιστα οἱ παρὰ τὸν ποταμὸν ἔκοντες, ταῖς μὲν χερσὶν ὕσι μέλανες, ταῖς δὲ ἰδίαις σιμοὶ, τοῖς δὲ τριχόμεσιν ὄντες. Were farther proof necessary to show that by the term *Αἰθίοπες*, the Greek writers always understood negroes, the accurate Strabo might also be quoted. In speaking of the Ethiopians, that geographer frequently describes them by their chief characteristic of woolly hair; thus *σουλδριχας* τοὺς *Αἰθιοπας* occurs in p. 1019, and many other passages.—I have already observed that Pliny places the beginning of the negro nations on the west of Africa, that is, the point of the western

that the original type was the visage of the ancient natives of Egypt *. It can form no objection to this doctrine that the characteristic marks of the Ethiopic face have disappeared long since; both from the plains of Egypt, and many parts of Abyssinia. The profuse intermixture of foreign races, and the lapse of near six thousand years may surely be deemed sufficient to account for

coast where the race of Moors ends, and that of the negroes begins, at the promontory of Cerne, or about latitude 19°. Hanno navigated as far south as the island and river of Sherborough, where we formerly had a slave-fort, or to latitude 6°, beyond the stream of the Gambia, and about a hundred miles south-east of Sierra Leone. The natives he met with on the coast are styled in the Greek narrative *Athiopis*, and no reasonable doubt can be entertained that these *Athiopis* were negroes. The term as adopted from the Greeks by the Latins, is employed among the latter under exactly the same signification. In proof a single instance will be sufficient. Thus Pliny in his first Book, ch. 78, talking of the Ethiopians says that they are discriminated from other men by crisp hair, and small bent legs; the first an infallible mark, the other, one by which we often see the negroes distinguished who are imported into this country. It may, therefore, I think fairly be concluded that the Ethiopians of Meroe, or inhabitants of that part of modern Nubia known to the ancients under that appellation, the progenitors and civilisers of the old Egyptians, were in reality neither more nor less than negroes.

* See the large and beautiful engraving of the sphinx inserted in the first volume of Denon's travels.

every observable alteration. Yet that all traces of the aboriginal countenance or primitive race, are not even now completely banished, from the first civilised countries of Africa, may be proven from the report of authentic witnesses. In the swollen eyes, thick lips, and depressed noses of the present Copts, Volney thought he could discern the Ethiopic visage of their ancestors, and Bruce relates that in the woolly headed Shangalla, the most abject of mortals, and hunted like wild beasts, who at this day reside in caves, dug out of the mountains that skirt the southern boundaries of Derkin and Atbara, he beheld the miserable remnant of that once polished troglodytic race who formerly taught arts, and cultivated sciences in the fertile peninsula, and magnificent capital, of Meroe *.

* The testimony of Bruce to this point must be regarded as of the highest authority. Besides his general intelligence as an observer, he was profoundly skilled in the annals of Abyssinia, records which, it is well known, reach to a very high antiquity. The conclusion he draws both from these annals, and from personal observation of the modern natives, is, that the Ethiopians who formerly colonised and civilised Egypt, were without question a negro race. Those of their descendants who still occupy, as Troglodytes, the mountains of Atbara and Derkin, in consequence of not mixing with other parts of the community, still retain, he informs us, the ancient negro features in their utmost purity and perfection: they have thick lips, woolly hair, and flat noses, or in other words, are neither more nor less than mere negroes.

The proofs of consanguinity betwixt the African and Asiatic branches of the great Indian family, have already been narrated, so far as they are deducible from three sources, traditional and historical record, identity of language and written characters, together with conformity of philosophical and religious doctrine; to those testimonies is now to be added the evidence of *corporeal similitude*. It will no doubt be deemed a bold proposition to assert that the first civilised of our race, the common instructors of Europe and the world, were originally a negro people; yet the affirmation once made, arguments are not wanting for its defence. That the African Troglydites were negroes, no doubt can be entertained, and that the same race at a very early period gathered the fruits, and cultivated the fields of India, besides the common opinion of antiquity with whom Ethiopic and Indian were convertible

The largeness of the mamma in those negresses who have suckled children, has been often remarked, and is given by many writers as a peculiar mark of negro conformation. The satyrst Juvenal, who, it is well known, resided a while in Egypt, bears testimony to this trait of the negresses of Meroe,

In Meroe crasso majorem infante papillam.

When Poncet the Christian missionary was in Sennaar, he observed the king to have an European nose and lips; all the courtiers around him however were complete negroes. Lettr. Edif. et Curr. T. III. 275.

terms, may be fairly presumed not only from monuments of sculpture and architecture still existing in the country, but the indubitable patronymic marks still impressed upon the countenances of one portion of its inhabitants. The custom of framing abodes by hewing caverns out of the sides of rocks and mountains, must not be deemed a practice peculiar to the shores of Africa. The same fashion appears to have prevailed, during the most remote æra, in Hindustan. These troglodytic habitations still remain in both countries, and little doubt can be entertained that they all equally proceeded from the industry of the same architects. In primeval ages, the humble abodes of men, provided they be somewhat ornamented and enlarged, seem a suitable dwelling for the divinity. Caverns accordingly, as well as among many other nations, appear evidently to have constituted the first temples among the Coptic and Hindu tribes *. The negro features

* For antiquity and universality of cave-worship, see Porphy. de Antro Nymph. p. 262, 263. Ed. Cantab. 1655. Bryant Anal. of Anc. Myth. vol. I. 218. Gog. Or. des Arts, Eng. trans. vol. III. 302. in Extr. from Chin. Hist. [A strange reason is assigned by Bailly, why the aborigines of tropical Asia and Africa preferred habitations of this sort, namely, that they might avoid the intensity of the central terrestrial heat; an unfortunate expedient, since the deeper they dug, the more insupportable would become the internal high temperature ascribed to the earth by Mairan, which in these early ages had not yet time to be wasted. Lettr. sur l' Orig.

of the oldest idol of Egypt the Sphynx, have been already noticed; the images which by their colossal size and peculiar workmanship excite so much astonishment in the caves of Salsette and

des Sciences, 314.] In the progress of African civilisation, the first part of Egypt colonised by the Ethiopic Troglodytes, was Thebais. Their cavern dwellings still remain, and have been innumerable times visited by travellers. They are described as extremely numerous, and some of them highly magnificent. The rock out of which they are cut is a close white freestone, which may be divided like chalk, and leaves a surface as smooth as the finest stucco. At Canarah, in India, the recesses excavated are no less numerous than at Thebes, and apparently furnished so many habitations to the possessors as to have merited the name of city, commonly bestowed upon it. It is not unworthy of remark, that the caves both in the islands Salsette and Elephanta, near Bombay, and in Egypt, are equally flat in the roof, a coincidence owing to the circumstance that the architects of Asia and Africa were as yet alike ignorant of the arch.

Men form a judgment of what is fitting for the mansions of their gods, by contemplating the earthly abodes of their kings or rulers. In the ancient Sanscrit, the same word, *mandira*, denotes at once the temple of the divinity, and the palace of the sovereign. The Indian tribe Natchez, of North America, worship the Sun, and bestow upon their principal chief the title of the Sun's brother. It was observed by the Christian missionaries, that the fane of the deity was constructed precisely of the same size, shape, and materials, with the house of the chief, and, like it, had its door or entrance to the east. (Lettr. Edif. et Cur. T. VII. 516.) Among the aboriginal Virginians who had not a regular priesthood, like

Elephanta, discover unequivocal marks of the same origin. Men form representations of their gods in resemblance of themselves, and when the frizzled hair, narrow forehead, flat nose, and thick lips, together with the muscular limbs of these figures are contemplated, so different in appearance from the modern Hindu, no doubt can remain that the original types were either indigenous or foreign negroes. (Hunter in *Archæologia*, vol. VII. 301.) The images dug up of late years at Gaya on the Coromandel coast are impressed with the same features, and evince that the negro race was once diffused over the eastern no less than the western shores of the Peninsula. Upon these images, and within these excavations, have been found various inscriptions engraved in characters at first difficult to decypher. After a diligent examination, Sir William Jones discovered them to be composed of nearly an equal number of Nagari and Ethiopic letters, another proof of ancient affinity betwixt the African and Indian Troglodytes. (Works of Sir William Jones, vol. I. 27.) It may be added here from the same author that the statues and pictures in India, representing the Varahavatar or incarnation of Vishnu in form of a Boar, bear a strong resemblance to the Hermes Canis of Egypt.

the Natchez, the quioccosans or temples could not be distinguished from their ordinary cabins. (*Hist. Gen. des Voy.* T. XIV. 516.)

(ib. 30.) It was the opinion of the ancients that the Hindus differed in no respect from the Ethiopians except in the straightness of their hair, and that this change might readily be effected by the humid atmosphere of India*. Whatever objection the modern physiologist might start against this doctrine, certain it is, that the mountaineers of Bengal and Bahar, even at the present day, present a countenance not distinguishable by its contour from the natives of tropical Africa, (Works of Sir William Jones, vol. I. 31,) and like the Shangalla of the Derkin and Atbara mountains, may not unreasonably be deemed the feeble remains of the troglodytic race, who once possessed, as an inheritance or colony, the eastern extremity of the primordial Chersonese†.

* This remark seems first made by Herodot. (see L. VII. c. 70.) and was afterwards adopted by Strabo.

† In this opinion, both in what regards the primitive form of the Egyptian countenance, and by implication in what relates to the descent of the Hindus from the Egyptians, or at least the consanguinity of the two races, I am happy to be supported by the very learned writer and skilful anatomist Frederick Blumenbach. Dr. Blumenbach after examining with great care the various Egyptian monuments representative of the Coptic face, and more especially after a diligent inspection of those specimens of it which are still preserved in mummies, particularly the osteology of the cranium, affording the surest test of the real conformation of the visage, at last comes to the following conclusion, which I shall express in his own words. "It appears to me that we must adopt

The obligations for civilization and knowledge boasted by the compiler of the Purans to have been bestowed by his countrymen on Ethiopia and Egypt, have already been stated; the gift

at least three principal varieties in the national physiognomy of the ancient Egyptians, which like all the varieties of the human species, are no doubt often blended together, so as to produce various shades, but from which the *true*, if I may so call it, *ideal* archetype may however be distinguished, by unequivocal properties to which the endless smaller deviations in individuals, may without any forced construction, be ultimately reduced. These appear to me to be 1. the Ethiopian cast. 2. The one approaching to the Hindu; and 3. the Mixed, partaking in a manner of both the former. The first is chiefly distinguished by the prominent maxillæ, turgid lips, broad flat nose, protruding eye-balls. (All of them characteristic marks of the negro countenance.) Dr. Blumenbach dissected one of the four large mummies preserved in the British museum, in presence of Sir Joseph Banks and many members of the Royal Society. The maxillæ were sensibly prominent, but by no means so much as in a true Guinea face, and not more so than is often seen in handsome negroes. This individual may be regarded as in a sort of intermediate state betwixt the Ethiopian and Hindu cast.

“The Second, or the Hindu cast, differs *toto cælo* from the above, as we may convince ourselves by the inspection of other Egyptian monuments. It is characterized by a long slender nose, long and thin eye-lids which run upwards from the top of the nose towards the temples, ears placed high on the head, a short and very thin bodily structure, and very long shanks. (It may be observed here that this peculiar thinness and wide spreading of the eye-lids occur in many

appears soon repaid by the stream of improvement that was to flow from the west. At a very remote age, the moral and mythological doctrines of the troglodytic regions are observed to have migrated eastward, and to have become engrafted on the legal and religious code of the

Egyptian monuments. It must necessarily have impaired the vision, and it seems to be for this reason that the satyrist Perseus, in describing an Egyptian priestess stiles her *lusca Sacerdos*, or blinking Priestess. It is well known that the Greeks derived their deities from Egypt. The Venus of Cythera is represented by mythologists as having eyes that blinked a little, a feature in all probability borrowed from the statues of the Egyptian Goddess Nephtis, to whom were ascribed the same attributes with this female divinity of Greece. De Pauw *Res. Ph. sur. Egypt. et Chin.* T. I. 294.) "As an ideal of this form, continues Blumenbach, I shall only adduce the painted female figure upon the back of the sarcophagus of Captain Lethieullier's mummy in the British Museum, which has been engraved by Vertue, and which most strikingly agrees with the unequivocal national form of the Hindus, which especially in England is so often to be seen upon Indian paintings.

"The Third sort of Egyptian configuration is not similar to either of the preceding ones, but seems to partake something of both, which must have been owing to the modifications produced by local circumstances in a foreign climate. This is characterized by a peculiar turgid habit, flabby cheeks, a short chin, large prominent eyes, and rather a plump make in the person. This, as may naturally be expected, is the structure most frequently to be met with." (*Phil. Tran.* for 1794, p. 2.)

Hindus. This great event, as may be deduced from Indian records, seems to have been accomplished at the period of the 9th Avatar, or by the descent and incarnation of Vishnu in the form of Buddha. Numerous circumstances conspire to show that this last law-giver of the Hindus was of Ethiopian or Egyptian extract. Tradition continually referred his lineage to the west, and similarity of name and æra at least countenance the opinion that he was the same with the Ethiopian Sesac or Sacya, the Sesostris of the Greeks, who is believed to have travelled eastward, either as a conqueror or as a saint and legislator, or in the character of all three, somewhat more than a thousand years previous to the birth of Christ. According to the medium calculation of Couplet, Desguignes, Georgi and Bailly, Buddha appeared in the year 1014, A. C. (Works of Sir William Jones, vol. I. 29.) Whatever may have been his place of birth, certain it is that this personage was a negro. His oldest statues, such as they appear all over India, continually represent him with the characteristic features of the African tribes, (ib 30,) and the same remark is true of his images as they were seen by Kæmpfer in Pegu, and Siam*.

* Nothing can be more precise than the testimony of Kæmpfer to this point. I shall quote the words of his translator Scheuchzer. "The Siamites represent the first teacher of their Paganism (Buddha) in their temples, in the figure

If the founders of religious sects place their highest glory in the multiplication of their followers, few in this species of eminence will be found to compare with Buddha. Not only admitted all over India in its largest extent, including Tibet and the further as well as the hither Peninsula, his faith has penetrated to the farthest limits of Japan, and is even observed to have pervaded all Tartary, with exception of such tribes as profess the doctrines of Mahomet, or are addicted to Shamanism, from the sea of Ochotsk to the Caspian; and it is not a little singular to remark, in the history of popular creeds, that the most enlightened nations of the east, the populous

of a *negro* sitting, of a prodigious size, his hair curled, the skin black, but as it were out of respect gilt over, accompanied on each side by one of his chief companions, as also round about him by the rest of his apostles and disciples, all of the same colour and most in the same posture." (Kämpf. Hist. of Japan, v. I. 36.) In reasoning concerning the Siamese religion, Kämpfer adds afterwards, "This saint being represented with curled hair like a negro, there is room to conclude that he was no native of India, but was born under the hot climate of Africa, considering that the air in India produces on its black inhabitants none of that curled wool, but long and black hair, quite lank and very little curled; and though the Siamites crop theirs, so as to leave it only the length of a finger; yet as it stands on end like bristles, it is easily distinguished from the woolly curls of a negro, and consequently it is more probable that Buddha was of African, than of Siamite extraction." (ib. 38, 39.)

provinces of Hindustan, and the three hundred millions of China should have derived their respective ordinance in law, morals, and religion, from the mouth of an Abyssinian or Egyptian

The great change introduced by Buddha into the Hindu superstition was to render it of a less sanguinary character, and accordingly Sir William Jones frequently speaks of the new doctrines of this teacher under the name of the mild heresy of Buddha. He prohibited immolation of human victims formerly practised in India, together with the sacrifice of every animal whatever, and the use of flesh in diet, These two last restrictions necessarily flowed from the doctrine of the Metempsychosis he inculcated. The African extraction of Buddha is countenanced by the mild tenor of his ordinances. Heliodorus, in his romance of Theagenes and Chariclea, the principal scene of which is laid in Ethiopia, and who may be supposed to speak upon that country, the common sentiments of antiquity, represents the Gymnosophists of Meroe as distinguished by a similar beneficence of character. These Priests, he tells us, continually deprecated among their countrymen, the cruelty of human sacrifices, though they could not always prevent them from offering up to their gods the prisoners they took in war. (Heliod. quoted by De Pauw, Res. Ph. sur les Egypt. et Chin. T. II. 12.) Indeed a mild and compassionate disposition has formed an honourable trait in the negro character, during all ages, from the time of Homer downwards to that of Park the traveller. Homer represents Jupiter as turning with disgust from the bloody contests of the Greeks and Trojans, and placing himself with the blameless rites instituted to his honour by his worshippers of Ethiopia. Park relates that he experienced the greatest kindness and beneficence from the negroes he met with in his travels, while by the other Indi-

negro. A prouder triumph will await his name and country, when it is recollected that it was communities of this identical race who first diffused the dawn of knowledge and civility over the regions of the west. The Greeks, it is well known, for their earliest science, owned obligations alike to Egypt, Iran, and Hindustan; from Greece the stream of learning passed to Rome; and continually augmenting in its progress, it has descended from the Roman ages to modern times. Yet Asia and Africa must ever be regarded as the original instructors of our species. The stems of intellect and fancy may have reached a nobler stature, or prouder growth in Europe, yet their first seeds were planted in the east. In arts and

genes of Africa, the *Æthiops*, or Moors, he was continually oppressed and persecuted. Another point of resemblance may thus be said to arise betwixt the Ethiopians and Egyptians, and their Hindu progenitors or descendants. The Hindus, it is well known are peculiarly conspicuous for mildness of manners and gentleness of heart, and this coincidence of character betwixt them and the natives of Nigritia has been well described by a competent judge, Major Rennell, in that part of his writings where he stiles the negroes by the name of the *Hindus* of Africa. One of the appellations bestowed upon Buddha in Hindustan, and indeed all over the east, is *Sacya* or *Siaka*, derived from a Sanscrit vocable signifying power, or vegetable food, the last probably in allusion to the great tenet of his creed by which he forbade the use of animal aliment to his followers. The word Buddha signifies in the same language *wise*. (Works of Sir William Jones, vol. I. 43.)

science it is an easier task to improve than invent, and it must be ignorance or ingratitude only, that can regard as a degraded race any branch of that Ammonian family, from whom knowledge and learning have descended, as from their original sources, to instruct, polish, and delight, the nations of the modern world.

NATURAL PRODUCTS OF THE PRIMEVAL
CHERSONESE, OR FIRST FOOD OF MAN.

THE notices respecting these articles will necessarily follow in the order under which they are mentioned in the text.

*Musa Sapientum Banana, and Musa Paradisiaca
Plantain.*

Both plants are spread over the primeval Chersonese, the African no less than Asiatic portion, and seem to have been in use during the most early ages. The Plantain, there is every reason to believe was the Bata (*βατα*) of Diodorus, enumerated among the indigenous products of Egypt, and serving as food to her first inhabitants. (Diod. L. I. c. 34. see further note by Wesseling, and subjoined authority of Salmasius in Solin. p. 931.) Besides their prodigious number, the spikes of Plantain often weigh forty pounds, and they continue fresh, or in season, during five months

of the year. (Hasselq. Voy. to Lev. 259.) From four pounds of the ripe fruit, Dr. Clarke of Dominica procured by experiment, no less than ten ounces and two drams of pure farina, or amylaceous matter. (See Clarke on quantity of starch from different vegetables, in Med. Facts, vol. VII.) Both Banana and Plantain, often serve for bread in their native regions, and the juice of each readily ferments into a vinous liquor, that of the former emulating in flavour the best Southam cyder.

Artocarpus Integrifolia, Jack, and *Art. Incisa*,
Bread-fruit tree.

Both known, time immemorial, throughout the eastern part of the Chersonese.—Of the two the last is to be accounted incomparably the more valuable. Besides surviving in great vigour for centuries, this species is wonderfully prolific, propagating itself, and requiring no sort of care or cultivation whatever. Not only are the branches covered with the fruit, but even the stem itself, and the crop continues constant during eight months of the year. (Thunb. Trav. vol. IV. 256. Damp. Voy. vol. I. 297.) The berry is about the size of a child's head, and contains within it a large quantity of farinaceous pulp resembling exactly in taste a mixture of new bread and Jerusalem artichoke. By particular management it may be preserved from spoiling so long a period

as two years, imitating in that respect the well known quality of the farinaceous seeds. (Sonnerat Voy. to Philipp. 20, Eng. transl.)

Those who have perused the voyages of Captain Cook, and of other navigators to the South Pacific, are not to learn the highly nutritious qualities of the Bread-fruit. In the Society Isles he who owns ten trees, reckons himself in possession of abundant provision for life. It has even been computed that three are fully adequate to the subsistence of any individual. (Forst. Obs. during Voy. round World, 219.) Besides alimentary, various oeconomic uses are derived from the *Artocarpus*. Thus the inner bark is converted into cloth, the wood is employed for building boats and houses, the male catkins serve as tinder, and the leaves for wrapping &c. and all the purposes of towels.—As aliment the use of the fruit seems to have been extremely ancient in India, of which it may be mentioned as proof that no less than fifteen dishes are formed out of it by the Ceylonese. The other species, the *Artocarpus Integrifolia* or Jack, was found by Buchanan an almost constant inmate of the gardens of Mysore and Malabar. (Buchan. Journ. to Mys. vol. I. 113. vol. II. 402, 454, &c.)

The Mellori is the *Pandanus Leram* of Sir William Jones. The fruit which weighs from

twenty to thirty pounds, is highly palatable and consists almost entirely of pure farina. Jones is of opinion, that were due attention paid to the propagation and culture of this tree, as by bringing the male and female plants together, such are its alimentary qualities as to preclude the possibility of future famines in India. (Jones' Works, vol. II. 37, 38.)

The Palms.

The Coco, *Cocos Nucifera* of botanists, may be reckoned the most useful of the Palms. It prevails universally over the Chersonese, and if we understand Theophrastus aright, was cultivated in ancient Egypt, where, as in Arabia it is still to be found. (Forsk. Flor. Egypt et Arabia, XCI.) The poorest soil suffices for its nourishment, provided it be supplied with water, and it delights to hang over the spray of the sea. (Thunb. Trav. vol. IV. 191. Forst. Observ. during Voy. round World, 107, 150.) From this last circumstance, without doubt it is, that it is found every where diffused throughout the whole tracts of Polynæsia, even over the lowest islets, or where the smallest portion of soil has been rescued from the waves. It begins to bear at seven, and reaches an extraordinary age, some individuals, if we believe Indian tradition, having survived the prodigious growth of a thousand years. A good tree is supposed to yield annually a hundred nuts.

(Buchan. Journ. to Mysore, vol. I. 156.) The fruit of the Coco forms an important article of diet in India, more especially among natives of the higher class. The oil is obtained by expression, and is much employed at table, also for the lamp. Newly separated it constitutes one of the blandest and most agreeable of oleaginous fluids. A considerable commerce is carried on, both from Mysore and Malabar, to other parts of India, in the dried nuts entitled by the natives Cobra. Like the other Palms, the Coco-tree by incision yields an ample provision of sweet juice termed Toddy among the English of Hindustan, and by evaporation affording a large quantity of sugar or *jagovy*, by fermentation a vinous liquor, and by distillation a very highly prized species of Ar-rack. (Thunb. Trav. vol. IV. 209.) Buchan. Jour. to Mys. vol. I. 229, 417. vol. II. 5, 365, and alibi.) In the sandy and barren soil of the Maldivé and Leucadive Islands, the Coco is almost the only vegetable produced, and it serves to the islanders not only for the purposes of food, but for almost all the other uses of life. Among these last may be reckoned the principal its application to the manufacture of ropes or cables. These, which are termed Coir in India, are made out of the strong fibres which constitute the husk of the shell, and in some respects are preferred by mariners to those formed of hemp. (See Penn. Hindust. vol. I. 148, 152.)

The *Date-Palm* is the *Phœnix Dactylifera*, a plant known to Asia from the most remote ages, and more especially prized in the western parts of the Chersonese. The prodigious variety of purposes to which it is applied in these regions sufficiently evinces the antiquity of its cultivation. Three hundred and sixty uses are enumerated by the natives, and in explaining these Kœmpfer has consumed nearly half a quarto volume. (*Amœnit. Exot.* p. 667, seq.)

The fruit of this Palm, or the Date as it is commonly called, which it bears in great clusters, contains a large portion of sweet nutritious matter, and a still ampler supply of saccharine juice or Toddy, is procured, by scooping off the crown of the trunk so as to allow the sap to ascend, from the tree itself. This juice is of the consistence of thin syrup, and is sweeter than honey. Fermented it forms the celebrated *Date* or *Palm-wine*, in use, time immemorial, over all western Asia, and eastern Africa, and without doubt, the *Σικερα* of the seventy, and *Sicera* of St. Jerome, in our English version usually rendered “strong drink.”—With the œconomical uses of the *Phœnix Dactylifera*, I will not detain the reader, and perhaps it is superfluous to remark, that it is the foliage of this palm which alike in the west, as in the east, has ever been accounted the appropriate emblem of joy, victory, and triumph, and

that it is from the custom of bearing in their hands the leaf of the same plant, the Christian pilgrims, who formerly resorted to Palestine, obtained the denomination of *Palmers* *.

Thunberg and Martyn alike denominate the *Sago Palm* *Cycas Revoluta*, but Murray denies its affinity to that genus, and describes it under the title imposed by Rumph, that of *Sagus Farinaria*. This Palm generally rises to the height of thirty feet, and is often so thick as not to be embraced by a man's arms. The fruit, though edible is of little account, but it affords in the pith of its trunk a large quantity of amylaceous matter, constituting, when properly prepared, the nutritious article sold in Europe under the name of *Sago*. The pith-tube is commonly an inch in diameter, and one tree will yield of this product from four hundred to five hundred pounds weight. It grows in prodigious woods incapable of exhaustion, and many of the eastern islanders, as those of the Philippines, Moluccas, New Guinea,

* Herodotus celebrates the wonderful produce of the Date-palm all over the plains of Assyria, affording to the natives a plentiful supply of honey, (that is toddy or syrup,) wine and bread, as well as the care taken of its cultivation, by regularly bringing the male to the female flowers. (Herod. L. I. 193.) Many inhabitants both of Persia and Egypt still subsist, at this day, on the alimentary products of the Date-palm.) Hasselq. 261.)

subsist upon it alone, the greater part of the year. In the Moluccas, Sago is so common an article as to serve as a medium for every species of trade or barter. (Hist. Gen. des Voy. T. VII. 376.) The flour makes excellent bread, and Captain Forrest who resided long in the eastern seas, relates, that he used it every day hot from the oven, and that he and his officers became extremely fond of it. So great is its nourishing power, and the facility of procuring it from the plant, that the labour of five men in felling the Sago-trees, beating the flour, and baking it, will suffice to maintain a hundred. Three trees will supply abundant nutriment to one person for a year, and a single acre of full grown Palms, at a moderate computation, will afford sufficient food for ninety-eight individuals, during an equal period. (Forr. Voy. to New Guinea, 45, 48.) Like the other Palms, the *Sagus Farinaria* furnishes, by incision, a sweet juice or toddy, yielding upon evaporation, sugar or jagory, upon fermentation, a vinous liquor, upon distillation, an ardent spirit, or arrack. The plant itself requires no care or culture of any kind, and no vegetable, the *Artocarpus* perhaps excepted, supplies so large a share of nourishment, with so little trouble.

Besides the above, various other Palms no less conducive to nutriment, and indeed to different

general purposes of life, have been long familiar to the east; as the *Corypha Umbraculifera*, the great Fan Palm, and Talipot-tree of Knox; the *Phœnix Farinifera* of Roxb; the *Cycas Circinalis*; the *Nissa Fruticans*; the *Borassus Flabelliformis* or Palmyra, the Doum-tree of Upper Egypt; the *Caryota Urens*; the *Elate Sylvestris*, Prickly-leaved Elate, or Wild Date. Of the two first the pith is an almost pure farina, and the Drupes of the *Phœnix Farinifera* are sweet and mealy. During the famine of India in the years 1790 and 1791, produced by scarcity of rice, the latter Palm proved of the utmost service, and saved the lives of many natives. Of the *Cycas Circinalis* the fruit is employed both recent and dried, and the young shoots are eaten like Asparagus. (Penn. Hindoost. vol. I. 246.) Flour is obtained by beating in a mortar the kernels of the nuts dried in the sun. (Buchan. Journ. to Mys. vol. II. 469, 470.) The *Nissa Fruticans* bears an esculent cluster of Drupes about the size of the human head. Those of the *Borassus Flabelliformis* are produced likewise in bunches, but are of a smaller size. Within each drupe is found an eatable pulp, together with three nuts about the bulk of a goose's egg, containing, when young, a soft kernel, and when old, a very palatable liquor. Bread and cakes are formed from the kernel. (Penn. Hindoost. vol. I. 248.) The Palmyra, as already remarked, is the Doum-tree of Egypt.

Sonnini compares the pulp of the fruit to bad gingerbread, the tops of the tree itself with its striking foliage and flowers, to magnificent bouquets. (Sonn. Egypt. vol. III. 102.) This Palm; it may be added, bears annually, and attains an immense age, some individuals surviving more than a thousand years. The tip of the spathe, when cut, pours out a large quantity of sweet fluid, among the Musselmen of India, stiled Tari, a term by the English corrupted into toddy, and by them used to express the saccharine exudation of all the Palms. (Buchan. Journ. to Mys. vol. I. 393.) A good Palmyra-tree will furnish daily, and for five successive months, about three ale quarts, and these again afford, by evaporation, a pound of sugar, or jagory. (Buchan. Journ. to Mys. vol. II. 194, 195.) It may be noticed farther, that the leaves of the Palmyra are applied to the purposes of paper, but they are used chiefly in the writing accounts. (id. ib. 488.)—Of the *Caryota Urens*, the buds are esculent, resembling in their taste walnuts and almonds. The juice or toddy is extracted by dividing the young spadix or flowering shoot, and the jagory though less prized than that of the Coco, is reckoned superior to that of the Brab or *Borassus Flabelliformis*. (id. ib. 454.) The upper portion of the stem of old trees yields also a quantity of Sago. With respect to the *Elate Sylvestris* or Wild Date, it is valued chiefly on account of the toddy it

affords. One individual tree bleeds during three months successively, but the cultivation of the different Palms is so managed, that sweet juice is obtained throughout the whole year. Fifty good trees will yield of toddy seventeen ale gallons, furnishing by evaporation about forty-six pounds of jagory. The manipulations regarding these two last Palms, the Palmyra, and Wild Date, such as separating the juice, preparing from it sugar, fermenting it into a vinous liquor, or distilling from it an ardent spirit, constitute the sole employment of two distinct casts in India, the Shunar, and Idigas or Idigaru, the first occupied solely with these processes so far as the Borassus is concerned, the latter so far as respects the Elate. (Buchan. vol. I. 5. 9. 393.)

*The Berries, Drupes, Gourds, and Pomes, of the
Primeval Chersonese.*

It would be endless to enumerate the various and delicious Berries, Drupes, Gourds, and Pomes that every where abound in the primitive Peninsula. Many have been so long naturalised in Europe, that their nativity is forgot, but the names of others, as well as history, still preserved in the languages of Greece and Rome, continue to betray the traces of their real, or Asiatic origin. Numerous examples might be cited, as among the Berries, the species and varieties of the genus Citrus, the Orange, Lemon, Citron, &c.

indifferently known to Greece under the title of *Μηλεια Μηδικη*, (Theoph. Lib. I. c. 22,) and to Rome by that of *Malus Medica*, Median Apple: in the list of Drupes, many fruits of the genus *Amygdalus* and *Prunus*, as, belonging to the first, besides the *Amygdalus Communis*, common Almond, so often mentioned in Scripture, the *A. Persica* or Peach, *Περσικη Μηλεια*, (Theoph. p. 27,) *Malus Persica* in Latin, together with the *A. Nucipersicum*, or Nectarine, two products, at present, frequent not only in Iran, but in Arabia and Egypt, (Forsk.) while arranged under the second, or genus *Prunus*, are observed a still greater number, as the *Prunus Armeniaca*, Apricot, the *Αρμενιακα* of Dioscor. (Lib. I. c. 145.) and *Malus Armeniaca* of the Romans, found in modern times by Pallas all over Caucasus, and by Forskal in Egypt, and Arabia; *P. Cerasus*, common Cherry, brought by Lucullus in his return, after the Mithridatic war, from a city of the same name in Pontus; *Pr. Rubra*, Cornish Bird Cherry, originally a native of Armenia; *P. Mahaleb*, perfumed Cherry, also discovered on Caucasus; *P. Domestica*, common Plum, indigenous to all Asia, to which might be added, had we a mind to swell the catalogue, two species of *Rhamnus*, the *Rh. Nabeca*, in flavour resembling an apple rather than a plum, (Sonnin. Trav. in Egypt, vol. II. 222.) frequent in Egypt and Arabia, and the *Rh. Ziziphus*, said to have been imported into Italy,

by Pampinius, during the imperial sway of Augustus. To the same list might be added various other Drupes, as the *Eugenia Jambos*, Malabar Plum, with its smell of roses, and the *Spondias Dulcis*, yielding in excellence only to the Pine Apple. (Malabar Orchards, Buchan.) The highly praised Eeve, or Apple of Otaheite, we learn from Forster, is also a *Spondias*. (Forst. Observ. during Voy. round World, 442.)

As to the *Gourds* or *Cucurbitaceous* fruits, plants of this description have ever constituted an important part in the diet of the southern east, from Egypt to India inclusive. Scripture attests the excellence of the Cucumbers and Melons found on the banks of the Nile, (Numb. xi. 5,) and modern travellers assure us that they still retain their ancient character. If we believe etymologists, the Greek *κικυω* and Latin *Cucumis* are alike derived from the Hebrew *kika*. Among these fruits, the choicest are natives of the east, as the *Cucumis Melo*, water Melon; originally, it is asserted, derived from Persia; *C. Chate*, peculiar to Egypt; *C. Sativus*, common Cucumber; the various species of *Cucurbita*, as *Cucurbita Lageneria* Bottle Gourd, *C. Pepo*, Pumpkin or Pumpkin; *C. Melopepo* Squash Gourd; this last keeps fresh and sweet even during long voyages: the *C. Citrullus*, constituting almost the sole food of the poor in Egypt, from the beginning of May

indifferently known to Greece, but and
Μηλεα Μηδικη, (Theoph.) or fevers.
 Rome by that of *Malus* Persia like-
 in the list of Drupes, more purely on a diet
Amygdalus and *Prunus*, and water Melons,
 besides the *Amygdalus*

mond, so often menti
Persica or Peach, *Περα*. among the inhabitants of
Malus Persica in Latin, to be considered as the
 cipersicum, or Nectar. Boelquist relates that the
 sent, frequent not to be ever saw, were gathered
 Egypt, (Forsk.) and the garden of Grecian monks
 or genus *Prunus*, Mount Sinai. (Voy. to Lev.
 number, as the plants were observed by Forskal
Armeniaca of Lebanon. Buchanan found in like
Armeniaca of growing to great perfection on
 times by Palladius in Mysore. (Journ. to Mys. vol.
 in Egypt, and Cydonia, or Quince, the Hes-
 Cherry, brought by the Greeks and Romans, flourishes
 the Mithridatic Egypt, and India, a remark no
 name in Persia. *Punica Granatum* or Pomegranate.
 originally various fruits might be mentioned in-
 fumed Cyprian the primordial Chersonese, as the
 Domestic *Malum* and *A. Carambola*, the first
 to white or growing on the stem of its parent
 the underneath the foliage, the second for its
 Nectar, and oval form, and the sensitive quality
 the more especially the footstalks, and
 the same property in the branches.

*Shoots of Plants indigenous to
Primeval Chersonese.*

Pot and *Sallad Herbs* will be found in Egypt and the east, as the *Brassica*, Collyflower and Broccoli; (Egypt, IV.) *Apium Petroselinum*, Parsley; *Spinacea*, Spinage, (Egypt and Arabia, Forsk.) use of which last we are said to have learned from the Saracens; *Lactuca Sativa*, Common Lettuce, frequent in Arabia, and with the variety of which termed Roman Lettuce are planted many fields near Rosetta, partly on account of the leaves for sallad, partly for the oil of the seeds; *Lepidium Sativum*, Garden Cress; (Egypt and Arabia, Forsk.) *Nasturtium Aquaticum*, a plant scattered every where, and equally at home, below the line, and under the poles: Hasselquist found it growing in great plenty near Solomon's Well at Bethlehem, and cured, by means of it, the monks in a neighbouring convent of a scurvy they had contracted from the too liberal use of salt fish; (Voy. to Lev. 147;) *Scandix Choerefolium*, Garden Chervil; (Egypt, Forsk.) *Sinapis Nigra*, Common or Black Mustard, of which the young leaves and footstalks are used as sallad herbs in the same country; *Cichorium Endivia*, Endive, according to Pliny, also indigenous on the banks of the Nile, time immemorial. To the above list might be added various other plants,

more purely of foreign growth, and employed likewise on account of their leaves and stalks, as *Smyrnum Olusatrum*, Common Alexanders; *Arundo Bambos*, of which the young shoots are pickled in India; *Portulaca Oleracea*, Purslane, frequent in Egypt and Arabia; (Forsk. L. IV;) *Simlax Aspera*, Red-berried, rough Birdweed, of which the tender shoots are boiled; *Convolvulus Battatas*, Spanish Potatoes, of which are employed as pot-herbs, the young shoots and leaves; *Aloea Ficifolia*, Fig-leaved Hollyhock, pieces of flesh in Egypt are boiled wrapped up in these leaves, and afterwards eaten along with them; *Amaranthus Oleraceus*, Eatable Amaranth, common to Arabia and India; *Trigonella foenum Græcum*, cultivated in the Mysore gardens, the young leaves are eaten as Greens, the ripe Legumes form an ingredient in curries.

Esculent Roots of the Primeval Chersonese.

A profusion of esculent roots is to be found native in the primeval Chersonese, as the *Arums*, without doubt in the number of marsh plants referred to by Diodorus, (L. I. c. 80,) as constituting the food of Egypt, during the first ages. In the same region is still cultivated the *Arum Colocasia*; the *Arum Macrorrhizon* in Ceylon, the *A. Peltatum* in Mysore. (Buch. v. L. 112.) The *Arum Esculentum* is the Taro plant of Otaheite, and New Zealand, reared, with great care and

labour, in these islands, and forming a principal article of their aliment. The whole of these Arums are more or less acrid, some of them so much so as to operate medicinally, but the acrimony is volatile, and even the rudest nations soon learn to dissipate it by the heat of cookery; what remains is in general pure starch. The roots of the different species of Lotus have long, in like manner, been employed as food at the two ends of the Chersonese. That of the *Nymphæa Lotus*, the Noufar of Arabia, corrupted by Europeans into Nenuphar, appears to have been, as may be gathered from Theophr. (L. IV. c. 10.) the same substance with the *κορσειον* (Corseon) of Diod. (l. c.) and said by him to be about the size of a Quince. It is still found plentifully in the ditches of the rice fields about Rosetta, is taken up at the subsidence of the Nile, and sold ready dressed in the streets of the city. In taste it resembles a potatoe, and is very much employed among the lower classes. The flowers are highly fragrant, and as produced in Egypt are generally white, but in India they often appear of a beautiful red, or azure colour. (Sonnin. Trav. in Eg. v. l. 314. Forsk. Flora Egypt.—Arab. 100. Jones' Works v. II. 93.) This Lotus, Theophrastus informs us, is to be found no less frequently in the Euphrates than the Nile. (l. c.) Whether the hairy roots of the *Nymphæa Nelumbo*, the Peltated Water Lily, were also formerly used as diet in Egypt, we are left in the dark by Hero-

dotus, though the plant itself is most accurately described by that intelligent, and inquisitive, traveller. Thus he tell us expressly, that the fruit-bearing stalk of this species rises naked, without branch or leaf, from the root, than which there could not be a more appropriate description (L. II. c. 92.) The Linnæan Nelumbo is the Sanscrit Padma, with its red, white, or yellow petals, all of exquisite odour, so highly revered over the Indian world. Its existence in ancient Egypt though doubted by Rennell, seems proven no less by Hindu tradition, than the testimony of Herodotus. By Jones it is stiled Lotus Nilufer, and pronounced to be the true Lotus of the Nile. (ib. 94.)—Various other roots, still more nutritious, are the original produce of the east, as the Dioscorea or Yam, with its numerous species, particularly the *D. Sativa*, *D. Alata*, *D. Bulbifera*; (in Mysore;) the *Convolvulus Battatas*, Spanish Potatoes, (in Mysore Canara,) the *Cyperus Esculentus*, (Egypt,) with numberless others long naturalized in Europe, as Onions, (Egypt, Arabia, Mysore,) Garlick, Leeks, Shallot, (Palestine,) white and red Beet, (Egypt, Arabia,) Carrots, (Egypt, Arabia,) Radish, (Arabia, Mysore,) &c. From four pounds of roots of the *Dioscorea Bulbifera*, and *Convolvulus Battatas*, were obtained, respectively, by Dr. Clarke in his experiments, eight ounces of starch, (Clarke's Mem. in Med. Facts, vol. VII.) The roots of *Cyperus Esculentus*, Sonnini relates are taken up in Egypt,

during the month of November, and their fleshy tubercles separated from the slender radicles. They are sweet, and yield a milky fluid of a mild taste. The *Cyperus Papyrus*, the *Byblus* of the Greeks, as appears from Herodotus, was also eaten in ancient Egypt, but the lower part of the stem was employed, not the root. (L. II. 92.)—It ought here to be remarked that the alliaceous roots as produced in these warm latitudes, contain but little acrimony, and in place of it, besides attaining a much larger size, evolve a very considerable quantity of sweet and mucilaginous matter, so as to become highly nutritious. The former excellence of the Cucumbers and Melons of the land of Pharaoh has already been noticed, as well as the bitter complaints uttered for their loss by the children of Israel in their journey through the desert; a regret no less pungent appears excited by the privation they suffered of the garlic, leeks, and onions, growing in the same region. Modern travellers assure us that these roots continue still to display their ancient excellence. (Sonn. Trav. in Egypt, vol. II. 59. Hasselq. Voy. to Lev. 290, 291.) The last mentioned writer praises the onion-soup of Egypt as the most delicious dish he ever tasted, and informs us that the Turkish inhabitants are so highly delighted with this vegetable, as to believe and assert that every true believer will be regaled with it, after death, in paradise.

Culmiferous and Leguminous Seeds.

That the most valued of our Culmiferous and Leguminous seeds, or in other words, of *Corn* and *Pulse*, were originally derived from the east, seems a fact attested by the whole tenor of ancient history, and tradition. Of the former order of plants, perhaps the most early in use were *Wheat* and *Barley*, the *πυρος* and *κριθην*, of the Greeks, grains cultivated, time immemorial, alike in Egypt (Diod. L. I. c. 14.) Iran, (Herod. L. I. c. 193, Fragm. of Beros, cited by Heyne, in 1st Treat. de Orig. Panific: see Opusc. T. I. 341,) and India. To the same regions may be referred, *Zea Mays*, *Maize*, or *Indian Corn*; *Oryza Sativa*, *Rice*, supposed by Goguet, v. I. 308. to be the *Olyra* of Herod. (L. II. c. 77). of which the Egyptian bread, *κυληστικη* was made, a corn of which at least twenty species are at present raised on the banks of the *Ganges*, a clear proof of the antiquity of its use; the various *Panics*, as *Panicum Miliaceum*, common *Millet*; *P. Miliare* of Lamarck; *P. Italicum*; the two last among the *Hindus* boiled whole, or ground into flour for puddings; the *Holcus Sorghum* or *H. Durra* of Forskal, employed in Egypt and Arabia, for the formation of bread; and *Holc. Spicatus*, boiled whole in India, or baked into cakes; the *Cynosurus Corocanus*, the *Ragy* of the *Hindus*; the *Paspalum Frumentaceum* of Roxb. the *Arundo Bambos*, the grain of which enters largely into the food of the poor of the

Mysore. Rye (*Secale Cereale*) and oats (*Avena Sativa*) may be esteemed likewise indigenous to the east. The first, if we believe Linnè, springs up spontaneously in the island of Crete, in all likelihood transported there from the neighbouring continent of Asia or Africa; the second was found by Bruce growing wild, the culms more than six feet high, in Abyssinia. It has also been seen by travellers, rising without culture, along with barley, near mount Tabor, in Palestine. (Kaims' Sketch, v. I. 90. Note.) Wildenow on the authority of Lord Anson, assigns strangely enough, as the native place of this grain, the island of Juan Fernandez, though it be the probable conjecture of that navigator, that it was not indigenous, but introduced there, by Spanish settlers, an opinion strongly supported by a parallel circumstance regarding the French plantation at Fort Dauphin, in Madagascar, near which another of the Culmiferous seeds, wheat, continued to be produced in ample crops among the grass, long after the abandonment of the colony. The oat is likewise a native of America. Thus it grows to great perfection, without the smallest aid of cultivation, in meadows and on the banks of rivers, among the Sioux. (Kaims l. c.)

With respect to Legumes or Pulse familiar to the east, the list is even more copious. Thus besides the usual varieties of the *Pisum Sativum*,

Pea, and *Vicia Faba*, Bean, we have in this part of the world the different esculent *Dolichi*, as *Dolichos Lablab*, Black-seeded *Dolichos*, and *D. Lubia*, the first raised in Egypt (Sonn. vol. II. 181.) on account of the seeds, the second for the legumes themselves, which after boiling, are eaten with oil and vinegar, like lettuce, and are much praised by Forskal; (Cent. V. 11;) the *D. Biflorus*, Horse Gram of India, so essential an article of subsistence to our eastern cavalry; the *D. Catjang*, of which the green pods and grain form an ingredient in curries; the *Phaseolus Communis*, Common Kidney Bean, together with other species, *Ph. Max*; *Ph. Nanus*; *Ph. Minimoo* of Roxb. of which last the ripe seeds are made into cakes with oil; the *Ph. Mungo*. To the above may be also added the *Cicer Arietinum*, Chick Pea, alike cultivated in Egypt and India; *Cytisus Cajan*, eaten in curries; *Trigonella Fœnum Græcum*, the most valued pulse in India; the *Arachis Hypogœa*, Ground Nut, &c. &c.

It would be no uninteresting speculation to inquire what those countries were in which such important articles of food, as bread corn, and pulse, became first known to mankind, or were first applied to the purposes of aliment. An answer to this query has been in some measure anticipated by an assertion ventured in the text, that these seeds, with few exceptions, were the

undoubted offspring of the east, an assumption, it may now be added, founded on two facts equally admitted, one, that they have ever been in use since the fabric of society was reared, the other, that the first governments the world saw, were those founded in the oriental regions. A similar alliance betwixt legislation and agriculture, it ought not to be forgotten, is no less perceivable in the west, and it is a well known fact, that according to the traditions of Greece and Italy, political institutions and the cultivation of the ground, or rather property in land, were believed to be coeval in date, or that laws and the gifts of Ceres were cotemporaneous benefits conferred upon our race.—It is not likely that the culmiferous and leguminous vegetables would form the earliest, or most primordial food of man. They are too little calculated to attract the attention of savages either by their general aspect or appearance, or by their other sensible qualities. Once known however their superiority becomes evinced, and they are speedily found to supersede, in a great measure, the use of other species of vegetable aliment. For this distinguished preference it is not difficult to assign a variety of causes, any more than to perceive the reason why these seeds have been so long, and so carefully, cultivated, in almost every portion of the civilised globe. Among their other advantages, one without doubt is to be reckoned their total insipidity, or their

complete exemption from any thing luscious in taste or smell, a property by which they never pall upon the appetite, but may be continued as food, for any length of time. Another quality still more beneficial, is their wonderful productiveness, or more correctly speaking, the singular power they possess of multiplying their seeds. All *Annuals* agree in this respect, as has been shown by botanists, and none enjoy the property in higher perfection than the corns and legumes, more especially the former. This is a fact too well known to require illustration. Thus a single ear of maize has been observed to contain a thousand seeds, all the product of one; a single grain of rice favoured by the benignant climate of India, has been found to yield an increase of a couple of pounds, and that too thrice repeated, during the same year. A third valuable endowment of the same plants, is their extreme hardiness. Many of them sustain with equal constancy the most intense heat, and the severest cold, and one of the principal among them, wheat, at this moment furnishes food to our race, alike under the tropics, and in the arctic regions. It is no doubt from this extraordinary power of accommodating themselves to every variety of soil and sky, that we find them spread over so many different regions of the world. Still however, like other plants, they have their native soil, and favourite climate, and the peculiar excellence they

attain in the primeval Chersonese, may be said to indicate the original seats of their growth. In these regions, they reach their utmost degree of perfection; become of a stony hardness; and ripen under an equal bulk an incomparably larger portion of farina than is ever produced by them in colder latitudes. The only other mark of superiority I shall at present mention, is the uncommon exemption of these seeds from any tendency to spoil or putrify. No alimentary product can compare with them in this respect. The most valued fruits, leaves, stalks, or even roots, soon lose their esculent properties, in consequence of chemical changes, but the grains, if properly stored, will keep for years without any diminution of their nutritious powers. Some of them even resist the influence of the hottest sun. Thus rice, the staple grain of India, if laid up there in what is called the *paddy*, or as covered with the husk, will continue, after two years, as good as when fresh reaped, and perfectly fit for food, after double the period. The *Cynosurus Corocanus* or Ragy, the universal food of the poor in many parts of Hindustan, is still more remarkable for the same property. If deposited in a pit rendered perfectly dry, it may be preserved, as we learn from unquestionable authority, for the long period of ten years. (Buch. Journ. to Mys. vol. I. 102.) In the present populous and commercial state of the world, the benefit of such a quality

becomes almost incalculable. By means of it this species of food is rendered easily transportable from place to place, partial scarcity is compensated, and such store of it may in favourable years be accumulated, as almost completely to avert the dangers and horrors of famine.

The gradual spread of the culmiferous and leguminous seeds from the east to other parts of the world, would form a curious subject of investigation, did it not lead into too copious details. It will be sufficient to remark here that it is to three nations, chiefly, the world is indebted for the almost universal propagation of these useful vegetables, namely the Phœnicians, Greeks, and Romans. The Phœnicians seem to have been the first who carried them westward, in consequence probably of their early and extensive commercial intercourse with the occidental regions. The next who promoted their diffusion were the Greeks, more especially after the subjugation of the Persian empire by Alexander the Great. Two lines of princes, or rather their subjects, appear to have shared chiefly in this beneficial operation, the Lagian and Seleucidian dynasties, of which, as is well known, the former established itself in Egypt, and the latter took possession of the whole eastern provinces of Iran, often pushing its conquests beyond the Indus, and the Panjab. What was still wanting for the more

complete dissemination of these plants was supplied by the Romans. Italy might be regarded for many ages as the grand seat of universal empire, the common centre whither every new or valuable production was regularly brought, and it is equally well known that in whatever country she extended her dominion, there she also communicated the benefits of her civilisation, arts, and knowledge.

It has been a question among botanists whether there anciently existed the same number of corn and pulse-bearing plants as at present, or whether the list has been augmented in consequence of long and incessant cultivation. For this last supposition, though maintained by certain writers, there appears neither the support of facts, nor analogy. That many culmiferous and leguminous seeds have been highly improved by culture, compared with what they were in what might be called their natural state, no doubt can be entertained, and that numerous varieties have been produced among them by the like circumstance, seems equally certain; but that any new species have been actually generated from the same cause, may be reckoned a doctrine equally void of truth, and probability. It may be reasonably concluded, therefore, that there anciently existed in the primeval Chersonese as many kinds of esculent grasses or legumes as were known after-

wards, though it was only the art of agriculture that could have brought them to their present state of multiplication, as well as excellence, for the food of mankind.

After the gramineous seeds became known to our race, it is extremely probable that at first and for a long time they would be eaten raw, or precisely in that state under which they were presented by the hand of nature. By degrees, however, various methods would be contrived for ameliorating them as food; one of these would be the application of heat to them, or the processes of cookery. Another would be reducing them into fine particles, or grinding them into meal, or flour. There is no nation so rude, if at all acquainted with the gifts of Ceres, as to be altogether ignorant of these contrivances. That of applying heat, from the nature of the thing, seems the most ancient, and we find abundant traces of this simple method of preparation in the oldest of human records, the books of the Hebrews, and Hindus. Thus parched ears of corn formed a frequent dish among the early Jews, and various grains simply boiled whole, constituted a no less common fare among the natives of primeval India. As these oriental nations never alter their customs, we find at the present day the same modes of cookery practised among them. Thus the spikes of Maize are still dressed by roasting,

both in Egypt and India, and in the latter region, the other grains as Rice, Millet, with the different Panics, the P. Miliare, P. Italicum, Paspalum Frumentaceum of Roxb. are usually presented at table under the same preparation. In the Arabic dish called *Ferik*, much praised by Sonnini, and introduced among the French, unripe ears of wheat first baked in an oven, and afterwards boiled with meat, constitute the principal ingredient. The present inhabitants of Palestine likewise, it has been observed, still follow the ancient modes of cookery practised by their ancestors. Hasselquist relates that whilst journeying betwixt Acra and Seide, he encountered a goat-herd in the very act of dining, as mentioned in the book of Ruth, on half ripe, and roasted ears of wheat. The traveller joined the simple repast, and was afterwards regaled by his host with new milk taken from the goats of his flock.

*Sugar, Mucilage and Oil, of the Primeval
Chersonese.*

Considerable quantities of sugar or jagory, it has already been observed, are afforded in India from the juice of the different Palms, but the great source of that article, as is well known, is the Sugar Cane, the *Saccharum Officinatum*, a plant familiar, from all antiquity, to the east. This purest of saccharine concretions seems to have been first known, in the west, as an imported article.

from Hindustan, and the plant itself is, without doubt, the Sweet Cane of Scripture offered up by the Jews, among other sacrifices, to Jehovah. (Isa. xlv. 24. Jer. vi. 20.) There is reason to believe, likewise, that the *Saccharum* was cultivated at a very early age in Egypt, and that it constituted the *καλαμου ῥίζαν*, Calami Radicem, enumerated by Diodorus, among the aboriginal products of that country. (Diod. L. I. c. 10. with Wesseling's note, and subjoined authority of Alpinus.) If it be objected here that it is the stem of the cane, not the root, which furnishes the sweet juice, this is a mere mistake of the earlier Greeks, and a similar error is fallen into even by the accurate Strabo, when speaking of the sugar of India. Bruce is of opinion that its culture ought to be esteemed nearly as ancient in Egypt, as in Hindustan; but this notion seems discountenanced by its description in Scripture, where it is stiled "a Cane from a far country," an appellation not likely to be bestowed on a region so near, and so familiar to the Jews as the kingdom of Pharaoh.

We know little of *Mucilage* as a separate article of diet in this country, but that the presence of this substance contributes largely to the nutritious qualities of the culmiferous and leguminous seeds, with those of most of our roots, pot-herbs, and fruits, their analysis sufficiently confirms. Several

facts serve to show that Gum alone is adequate to human subsistence. Thus the negroes of Senegal, Adamson informs us, often live great part of the year on an aliment of Gum Arabic, Gum Senegal, and milk. In like manner, it has happened more than once, that whole caravans traversing the sands of Arabia, and plundered of every other species of food by the Bedouins, have sustained life, by means of the former of these gums alone, during many weeks.—Almost all the vegetables remarkable for affording gum or mucilage, may be considered as natives of the southern east. Of this number, for instance, is the species of *Mimosa* (*M. Nilotica*, the *Acacia Vera* of Willdenow) furnishing the Gum Arabic, a tree every where met with in the tropical, or nearly tropical desert. To the same list may be added the *Hibiscus Esculentus*, Eatable Hibiscus, supplying according to Sonnini, (*Trav. in Egypt*, vol. II. 4,) the most mucilaginous of dishes, as also the *Malva Rotundifolia*, Dwarf Mallow, and *Corchorus Olitorius*, Jew's Mallow, both of them prized for the same quality, in Arabia. Hindustan again abounds with plants furnishing in their exudations a large quantity of Gum. The following are enumerated by Buchanan as the most remarkable among them: *Andersonia Panchmoum*, Roxb. MSS. *Melia Azadirachta*, *Chirongia Glabra*, Buch. MSS. *Mangifera Indica*, *Cassia Auriculata*, *Cegle Marinelos*,

Shorea Jala, Buch. MSS. Chloroxylon Dupada,
Buch. MSS. Bombax Gossypinum.

The consumption of vegetable oil for the purposes of unction, subsistence, or the lamp, has ever been much greater in the warmer, than in colder countries, and the eastern regions are known to abound in all those plants that furnish, by their lobes or cotyledons, the largest supply of this necessary of life. The list of such vegetables indigenous to these first inhabited countries will be found not a little copious. Besides the oils extracted from the different Palms, and the Madhuca, already noticed, the same fluid is obtained from numerous other sources, as the Almond, scattered over Egypt, India, and Iran; (Forsk. Flor. Egypt. Arab. L. I. Buchan. Journ. to Mys. L. 193;) the Pistachia Vera, Pistachio Nut, no less widely diffused; (Forsk. L. II.) the seeds of the White Poppy, Papaver Somniferum; (Egypt and India;) of the variety of Lactuca Sativa, termed Roman Lettuce; (Sonnin. Trav. in Egypt, vol. II. 61;) of the Sesamum Indicum common all over the Chersonese, and probably the species mentioned by Herodotus as the great substitute for the olive among the ancient Babylonians; (Herod. L. I. c. 193;) also the Sesamum Orientale; of the Ricinus Palma Christi, and another species denominated Huts-Elli by the Hindus, and Ram

Tola by the Musselmans; of the *Jatropha Curcas*; (India;) of a species of *Argemone*; (India;) of *Bassia Longifolia*, (India,) the last dedicated to the use of temples; (Buchan. Journ. to Mys. vol. I. 230;) of the *Melia Azadirachta*; of the *Cucumis Sativus* and *C. Colocynthis*; of the *Calophyllum Inophyllum*; of the *Carthamus Tinctorius*; (Sonn. Egypt, vol. III. 30;) of Black and White Mustard; of *Arachis Hypogaea*, Ground Nut; of *Robinia Mitis*, &c. &c.

The *Vine*, *Fig*, and *Olive*, if indigenous to Europe, are no less certainly the native offspring of Asia, and in the latter region their uses seem to have been known, during the most primeval times. With respect to the Vine, immediately, or during the first year, after debarking from the ark, Noah contrived to make wine from the grapes of Mount Ararat. (Gen. ix.) The same plant still flourishes in the utmost perfection, independent of culture, on the hills of Albania, or Servan, (Lett. Edif. et Cur. T. IV. 26,) and many other places of Iran, as mentioned by Kœmpfer, and Chardin. It is found to thrive no less happily in Egypt, (Forsk. Flor. Egypt. Arab.) in Arabia, (Diod. L. I. 15,) and in Hindustan. (Buch. Journ. to Mys. vol. I. 47.) The last named traveller observed it growing, with great vigour, in the neighbourhood of Bangalore, but the finest grapes of India are those of the high rock Asher-

Guhr, passed by Goddard in his celebrated march, begun during the year 1778, across the broadest part of India, to Guzerat. (Penn. Hindoost. vol. II.) Still however there are certain limits within which only the Vine attains its utmost degree of excellence. If we believe the intelligent Murray, these precincts lie betwixt the 51° and 30° of north latitude. (Murr. Appar. Medic. T. I. 310.) The use of the Olive seems hardly less ancient than that of the Vine. That it was a native of Palestine is learned from Scripture, and a late traveller, Hasselquist, in his peregrination through the same country, found it growing wild in the plain of Jericho. (Voy. to Lev. 129.) Diodorus attributes its first employment on the banks of the Nile to one of the earliest of Egyptian kings and deities, Osiris. (Diod. L. I. c. 16.) The noble breed of Olives for which Attica was celebrated, if we believe tradition, was derived from the same region.

The Fig may safely enough be referred, in its origin, to Asia. It does not shrink before the heat of the tropics. Thunberg observed a Fig-tree growing with great vigour, out of the cracks of a wall, in Java. v. I. 306. The truth is, if we examine the more elevated tracts of Asia, and compare them with the plains of Europe distinguished for similar temperature, we will find the Flora in both places to be exactly alike. Thus on

the hills near Batavia, the Dutch cultivate, with perfect success, their usual esculent roots and greens, though the soil whence they rise be situated within 7° of the line. When Bernier, in the year 1664, accompanied the Mogul Emperor Aurengzebe, in his journey to Cashmere, he observed with astonishment, while ascending the Imauan chain, surrounding that romantic valley, that the Asiatic vegetables continually disappeared by degrees, and were succeeded by others of colder growth, till on the summit of the range, and on the northern slope, the scene became so completely European, the traveller fancied himself in the woods of Auvergne. An exactly similar observation was made by the Botanist Tournefort, whilst climbing the heights of Mount Ararat; at the foot were the usual plants of Armenia, somewhat higher up, those common to France, at superior altitudes, appeared those that grow in Sweden, on the very summit, were seen only those that flourish in the most elevated Alpine regions, or under the north pole. It is temperature in fact that determines the native country of trees and shrubs. The plants that crown the loftiest eminences of the warm latitudes, take their station on the plains of the colder ones; and for this reason it is, that what are purely Alpine products in southern Asia, and Europe, still following what geographers call the line of snow, are observed to be the ordinary vegetables in the open fields of

Greenland, Spitzbergen, Nova Zembla, North Siberia, and Kamptschatka.

INTERNATIONAL TRAFFIC OF THE PRIMEVAL
CHERSONESE.

THAT an extensive traffic existed during the most early times, betwixt the two extremes of the Chersonese, and that this intercourse was carried on through the Entrepot of the Red Sea, we possess the authentic testimony of Scripture, where mention is often made of commodities known to be the produce of India, or Arabia only*. At what particular period the important discovery was made of the regular prevalence of the Monsoon, over the intervening seas, it may be difficult to decide, though it seems reasonable to believe that this requisite knowledge, was of very ancient date, since it was only necessary for the purpose that one of the common coasting vessels, on either side of the Erythræan, should, by getting beyond the range of the land and sea breeze, be caught by the periodical gale, when it would be instantly wafted to the opposite continent. Such accident could hardly fail soon of occurring, and we know has actually happened to different

* See this point fully illustrated in Vincent's *Periplus of the Erythræan Sea*, vol. I. p. 2, 37, 57, 60—64.

individuals. Thus P. Luigi Maria de Gesu, a Carmelite, afterwards Bishop of Usula, and apostolic Vicar of the coast of Malabar, coming round Cape Comorin in a native ship, was carried over to the Maldives, and thence to the shores of Africa. (Paolin. p. 83.) A similar fate, many centuries before, befel the freed man of Annius Plocamus farmer of the revenue on the Red Sea to the Emperor Claudius. This agent of the collector, coasting along the Arabic Gulf where it joins the ocean, and venturing too far from shore, was taken up by the Monsoon, and transported, without stopping, to the island of Ceylon. (Vinc. Perip. vol. I. 45.) It is alledged by Dr. Vincent, and other writers, that the whole commerce betwixt India and the Red Sea must have been transacted by Arabians only, since the Hindus were prohibited, alike by religion and law, from exercising navigation, for fear of violating the divine principle or element of water. This is a mistake, as appears from the following passage of Sir W. Jones: "That the Hindus were in early ages a commercial people, we have many reasons to believe; and in the first of their sacred law tracts, which they suppose to have been revealed by Menu, many millions of years ago, we find a curious passage on the legal interest of money and the limited rate of it in different cases, with an exception in regard to *adventures at sea*; an exception which the sense of mankind ap-

proves, and which commerce absolutely requires, though it was not before the reign of Charles I. that our own jurisprudence fully admitted it in respect of maritime contracts." (Works of Sir W. Jones, vol. I. 32.) The laws of Menu are believed to have been composed at least fifteen centuries prior to our æra, and the above regulation sufficiently evinces the high antiquity of Indian commerce.

CHAP. I.

*Of Physic in Greece during the First, or
Traditional Ages.*

WHAT may be termed the *Traditional Ages of Greece*, if regard be had to true chronology, must be supposed to occupy the long period of a thousand years. Of this protracted æra, with exception of a few facts which could not easily be lost, it is only the concluding portion that seems worthy of regard. Much of the anterior recital must be deemed the production of fable, and if the commencement of the latter, and more credible part, be fixed at the epoch of four hundred years before the time of Homer, and seven or eight hundred antecedent to that of Herodotus, enough of confidence, it may be affirmed, has been yielded to the early testimony of Grecian story. By many, indeed, this range of belief will be accounted too large, and it cannot be denied that the most moderate scepticism may discover

much in the narrative, both to doubt, and to reject. Still, however, the more prominent events may be safely enough admitted; the colouring and drapery, it is true, not unfrequently betray the hand of fiction, yet the great outlines may be regarded as sufficiently faithful, or as delineated by the pencil of truth.

Within the circuit of the six centuries supposed to precede the rise of letters and philosophy, is usually included an æra of high importance in the traditionary annals of Greece; this is what has commonly been denominated the **HEROIC AGE**.—Whoever has studied the poetry and mythology of the first civilised portion of Europe, cannot but know the deep and lively interest this fabling, but seductive, æra was doomed afterwards to exert over the minds of its inhabitants. It is a period indeed their writers seem ever disposed to dwell upon with admiration, as well as to celebrate with unceasing delight; and for this national predilection, a variety of causes may not unplausibly be assigned. It was without doubt, within the pale of this epoch, that the Greeks emerging from their dens and forests, from the occupation of shepherds, and hunters, began first to practise agriculture, to attain property in land, and to be collected into towns and villages. To this important amelioration in their condition as a people, is observed to have succeeded a period of

war and glory; various dynasties of illustrious chiefs arose eminent for their prowess in the field; the most arduous and brilliant enterprizes were undertaken, and achieved. A martial people ever regards with fond enthusiasm the memory of its first exploits. The romantic valour of their ancestors was long therefore to form a favourite theme with the after Greeks, and national vanity might find ample scope for gratification, as it called to mind the proud trophies, and accumulated triumphs, of the Heroic Age. Nor was the same era destitute of other and more substantial claims to the estimation of posterity. The patriot, the statesman, and the warrior, might discern with satisfaction, the birth of public feeling, and the dawn of the sciences of war and policy, among their countrymen, as they contemplated the institution of the Amphyctions, together with that organization of national strength, and confederacy of rival chiefs, which produced, in succession, the expedition of the Argonauts, the double siege of Thebes, and the capture of Troy. But the circumstance which tended, above all others, to perpetuate the memory of Grecian tradition, and which must ever secure to it a lively interest in the eyes of lettered Europe, is perhaps to be looked for in the unequalled genius of those writers who have transmitted its records to posterity. Like other nations not yet instructed in the art of alphabetic writing, the aboriginal

inhabitants of eastern Europe were compelled to entrust the memorial of their first events to the simple compositions of their bards. Many such appeared, during early ages, in this part of the world *, but it was the unparalleled genius of Homer that was to supply an immortal register for the first achievements of the Grecian name. The tale of oral tradition is best preserved from perishing by the harmony and modulation of numbers (1), and the strains of the *Epopœa* may be observed to constitute the primary annals of almost every people (2). The rhapsodies of Homer, therefore, must be considered as preferring thus a double claim to attention and regard. His unequalled productions must not be viewed merely as the noblest effort of the noblest species of poetry. They will be found to partake the truth of the historic, no less than to breathe the inspiration of the epic muse, and the merit of their author as an annalist, is not inferior to his excellence, as a poet. The *Iliad* and the *Odyssey*, are in fact the true and legitimate history of barbarous Greece, and may be pronounced the almost only surviving chronicle of her ancient tribes. Besides rescuing from oblivion the splendid and important events of the heroic times, they have preserved to posterity what perhaps was of more value, a minute, curious, and pleasing picture of the state of man-

* Such as the *Aoidoi*, and Cyclic poets.

ners arts and knowledge such as it existed, at a very early period, over a large portion of the ancient world, information, however desirable, to be derived from no other source *. Succeeding Grecian poets, incited perhaps by the example of Homer, have conspired to throw the light of their genius on the same eventful, though traditionary æra. The stream of poetical subject emanating from the heroic age, was not exhausted by the strains of the *Epopæa*. New species of poetry were to draw their existence from the splendor, the interest, and the credibility of its narrative. The noblest instances of dramatic excellence were to derive from it incidents and characters, and it was to furnish themes to some of the sublimest efforts of the lyric muse. It is from the combined influence of causes such as these that the materials of our knowledge relative to those ages that precede the rise of letters and philosophy in Greece, however authentic they may be deemed, are at least abundantly copious, and circumstantial; and the genius of those who have transmitted them to posterity, has thrown a lustre, and an interest,

* The high estimation in which Homer was held, as the grand register of arts and knowledge in the ancient world, is enthusiastically expressed by Apuleius who stiles him "*poetam nultiscium, vel potius cunctarum rerum apprime peritum*"—further, "*ut omnis vetustatis certissimus auctor Homerus docet.*"

over the early transactions of barbarous tribes, that might in vain be claimed by the records of any other uncivilized community. *

* The following couplet, particularly the last line, of Milton's *Penseroso*, will perhaps suggest to the admirers of Grecian literature, more pleasing remembrances than any equal number of verses in the whole circle of English poetry:

Presenting *Thebes'*, or *Pelop's line*,
Or the tale of *Troy divine*.

By far the principal among the productions of the three great tragic writers of Greece might be arranged under this threefold division.

Under the line of Thebes.

Seven chiefs at siege of Thebes. Æschylus.
 Œdipus, }
 Œdipus at Colona, } Sophocles.
 Antigone, }
 Phœnicians, }
 Suppliants or Argives, } Euripides.
 Iphigenia in Aulis, }

Pelop's line.

Choëphoræ, }
 Eumenides, } Æschylus.
 Agamemnon, }
 Electra, }
 Orestes, } Euripides.
 Iphigenia at Tauris, }
 Electra. Sophocles.

Troy divine.

Rhesus, }
 Trojans, } Euripides.
 Hecuba, }
 Andromache, }
 Helen, }
 Ajax the Whipper, } Sophocles.
 Philoctetes, }

Amid the details of art and acquirement thus preserved from oblivion by the writings of Homer, and those other poets who might be stiled historians of the traditionary Grecian period, no inconsiderable fund of intelligence is discernible regarding the infant state of medicine, such as it existed in this part of the ancient world.—When upon this subject all the rays of scattered information are diligently collected together, so as to be comprehended under a single glance, a curious circumstance immediately presents itself to the view of the medical antiquary, namely, that for its first discoveries or improvements, medicine in Greece appears indebted, almost wholly to two orders of men from whom such benefit was not likely to be derived, *viz.* .

I. The Chiefs or Sovereigns of its different small Communities. And,

II. Their Priests, or Ministers of Religion.

In the beautiful address of Teucer to his fellow-wanderers ending with the line “Cras magnum iterabunus æquor.” (L. I. Od. 7.) Horace has stirred, with most happy enthusiasm, the romantic associations of the heroic age.

SECT. I.

Heroic Medicine of Greece.

WITH respect to the ascription of medical honours to the first of these classes of persons, the petty sovereigns of the Grecian states, no point can be better established by the concurring voice of history and tradition. Hardly a royal or distinguished personage of this age is to be named to whom this species of praise has not been accorded, though it seems bestowed with most lavish hand on those two celebrated lines of chieftains or kings, the glory of whose exploits gave the name of heroic to the age during which they flourished, the one distinguished for the hardihood they displayed in undertaking the first maritime expedition attempted by their countrymen, that to the shores of Colchis, the other still more illustrious for their achievements, on the plains of Troy.*—The reader will probably ex-

* Such as *Chiron* surnamed the Centaur, a chief of Thessaly. Plut. Sympos. III. Hygin. c. 27. Plin. L. 7. ib. L. 25. p. 50. *Æsculapius* one of the petty sovereigns of the same country. Hom. Il. 4. Pind. Pyth. Od. 3. Apollod. p. 115. Plat. Rep. 3. Cic. de Nat. Deor. L. 3. *Hercules*. Plin. L. 25. p. 15. ib. L. 28. 4. 6. Le Clerc. Hist. de la Med. p. 3. *Telamon* prince of the island and city Salamis in the Saronic Gulf, father of *Teucer*. Philostr. in Heroic dum de Chirone. *Teucer*

cuse me if I omit enumerating here all the instances the primary annals of Greece afford in proof of this assertion, a more interesting topic presents itself in the inquiry, how tradition should have added to the other honours of these personages the singular praise of promoting by their genius the advancement of a useful branch of knowledge; and secondly, how accessions to the slender stores of medicine should have actually accrued, (for the fact itself is too strongly attested to be altogether denied,) from a class of

Plin. L. 25. p. 20. *Aristæus* king of Arcadia. (Apoll. Rhod. Argon. L. 2. Gal. Introd.) *Theseus* king of Athens. (Theoph. Hist. Plant. L. 7. c. 11. et alibi.) *Jason* leader of the Argonauts. (Le Clerc. Hist. de la Med. p. 32.) *Peleus* father of *Acchilles*, (ib.) *Acchilles* (Hom. Il. 11. Æl. Hist. Animal. Plin. L. 25. p. 10. 2. c. 18.) *Machaon* (Il. 4.) and *Podalirius* sons and successors of *Æsculapius*. (Steph. Byzant. voce *Syrna*.) *Castor and Pollux*. (Pausan. in Boeot.) *Elebotes* son of *Teleon*, a chief of the Argonauts. (Aristoph. in Ranis. Apoll. Rhod.) For a complete enumeration of the different discoveries imputed to each individual chief or sovereign, see the initiatory pages of Le Clerc Hist. de la Med. with those of Haller's Bib. Med. Prac. and of his Bib. Chirurg. Botan. and Anatom. It is singular that neither the Swiss nor French compiler should have noticed the universal high rank possessed by all these primary benefactors of Medicine in Greece. Even Celsus in his little elegant introduction, when he celebrates the surgical skill of *Æsculapius* and his two sons *Podalirius* and *Machaon*, seems by no means aware that it was a quality common to other Grecian princes and leaders. The same omission is chargeable on all other historians of medicine.

men whose ordinary occupations were not likely to expedite the origin, or accelerate the progress, of any art or science. The following considerations may perhaps serve to throw some light on both questions.

To the belief then thus current in antiquity that the heroes of this period were the individuals from whom physic derived its first improvements, two circumstances might materially contribute, first, the obscurity that necessarily hangs over the beginning of arts, and secondly, that sentiment of profound veneration savage tribes are apt to entertain for the character of their chiefs and leaders. Of arts which require a succession of ages before they reach maturity, the origin must inevitably be obscure, because many are so essential to life, that they must have arisen at a period long before men had attained the skill of transmitting their ideas to posterity, by the use of writing. Even in early times, some will bear such evident marks of advancement, or appear in their nature so complex, that by rude communities their first discovery will be deemed an effort transcending the reach of human capacity. Hence it is that barbarous nations are not accustomed to look for the rise of useful inventions in its true source, the natural wants and necessities of men; they deduce it from a cause more simple, more readily comprehended by the imagination, more suited to the

superstitious notions that prevail among them, namely, the interposition of some superior being*. This circumstance, common to the history of arts in every country, is no where more amply illustrated than in the annals of the Greeks. Among that people, as is sufficiently known, every acquirement that had for its object to benefit the condition of man, was believed the invention of some divinity, or at least of some mortal inspired by the divinity with superior powers of mind. The art of physic, among others, was referred to a peculiar deity, and for its first improvements was supposed to be indebted to the efforts of certain distinguished chiefs or heroes, men allied to the gods, and endowed by them with a portion of supernatural intelligence †.

* The annals of all rude nations abound with tales in illustration of this principle. The walls of Troy, though not very remarkable, as we learn from Homer, for their height or structure, were nevertheless reared by the united labour of Apollo and Neptune. Turner, in his embassy to Tibet, relates, that passing over, among the precipices of Bootan, a bridge of singular construction, and along a road cut with great dexterity out of the solid rock, he happened to ask who the engineer was of both works; the uniform reply of the natives was, that each was contrived and executed by Tehuptehup, one of their principal dewtas or divinities. (Turner Emb. to court of Teshoo-Lama, p. 56.

† Chiron was the reputed son of Saturn, and was said to have been taught the virtues of herbs by Diana. (Hygin.

For individuals to reach the character of such high qualifications, seems, in rude ages, no difficult attainment; it naturally follows from the profound degree of respect uncivilised and ignorant nations are observed to entertain for their rulers*.

c. 27.) Aristæus king of Arcadia, and Esculápius whose dominions were a Thessalian district on the banks of the river Peneus, were both fabled to be sons of Apollo. The general sentiment of antiquity upon this point is expressed with sufficient clearness both by Cicero and Pliny. The words of the first are "Deorum immortalium inventioni consecrata est ars medica; (Tusc. Quæst. L. 3.;) those of the second "Diis primum inventores suos assignavit Medicina, cæloque dicavit. L. 29. c. 1.)

* Among the ancient Floridians, when one of the Paroustis or chiefs happened to die, the cabin belonging to him, together with his whole moveables were instantly consumed with fire, it being deemed profanation for any one to possess what had formerly been occupied by the sovereign. Charlev. Nouv. Fr. T. III. 28. Similar veneration, as appears from innumerable proofs recited by English voyagers, is entertained by the natives of Otaheite for their living rulers. Thus if the king enters any habitation by accident, the house with all its furniture and utensils, is immediately ordered to be burned. Cook's Voy. vol. II. 170. Vancouver demanding, one day, of the king of Otaheite's father, if he might send to his son Otoo, the reigning sovereign, a glass of wine, was answered that certainly he might, provided he consented to have the glass broken afterwards. The captain not willing to lose his glass, dispatched the wine in a cocoa-nut shell. As soon as the contents had been emptied by the young king, the shell was instantly broken, and the fragments cast into the sea.

If to great strength and other bodily accomplishments in the leader of a barbarous tribe, there be also added uncommon endowments of mind, nothing can exceed the veneration in which he is held by his followers. Extraordinary mental powers, such as superior courage, great foresight in war, with other talents of a similar kind, are apt to raise their admiration to the highest pitch, because the precise limits or extent of such qualities not being easily estimated, they appear in their nature unbounded *. Hence uncivilised

Vancouv. Voy. vol. I. 108. In Loango the chiefs are revered as gods, and always addressed by the titles Sambo and Pango, terms signifying the divinity. . . Hist. Gen. des Voy. T. IV. 595. The Sultan of Menancabow a district of Sumatra, together with his brothers, Marsden assures us, though possessed of very little political power, are yet so venerated by the people, that if they happen to strike, or even wound any person, no attempt is made to ward off the blows, all resistance being deemed sacrilege. Marsd. Hist. of Sum. p. 276.

* In the war expeditions of the North American Indians, where every thing depends upon concealment and surprise, and where, on that account, the usual mode of acquiring subsistence by the chase, is always strictly forbidden, the principal qualification of a warrior is to be able to sustain, without loss of vigour, the extremes of hunger and thirst. A capacity of this sort leads to the highest honours of the canton, and if enjoyed in a very eminent degree it appears in the eyes of savages so wonderful, so far to exceed the bounds of human exertion, as to confer upon its possessor

nations will ascribe to their favoured kings not only the abilities they actually possess, but others to which they have no claim. They regard them as beings of a superior order, as related to the gods, in whose divine nature they participate, and by whom they are inspired with the capacity and enjoyment of every kind of knowledge whatsoever*.

the attribute of preternatural power. A good instance of this principle is recorded by Charlevoix. Father Allouez, as he related to that missionary, met among the Canadian tribe of Poutioutamis, an old chief who had the singular faculty of enduring hunger without shrinking for near twenty days. Allouez found him to be revered as a god by the whole village. (Charlev. Nouv. Fr. T. I. 395.)

* The natives of the Ivory or Tooth coast of Guinea regard their kings as so many powerful magicians. (Hist. Gen. des Voy. T. III. 639.) When the inhabitants of St. John, or Brava, one of the Cape de Verd islands beheld Captain Roberts' astronomical instruments, they immediately conceived him to be one of the Fittazaers or Sorcerers, and requested that by his superior skill in magic, he would remove the diseases inflicted by their own magicians, more especially those of their children and cattle. (ib. T. II. 342.) In Loango, the people ascribe to their chiefs the power of calling down rain as often as they please, and often invoke them for the purpose. Battel relates that he was present on one occasion, during a season of excessive drouth, when the king thought proper, in compliance with the wishes of his subjects, to exercise this useful prerogative. The ceremonial was pompous, and one part of it consisted in the sovereign darting his javelin through the air towards the clouds. To

A third consideration may help further to elucidate the ascription of medical honours to the ancient heroes and sovereigns of Greece. During the infancy of society, the state of government is

Battel's astonishment the rain soon afterwards followed in great abundance. (ib. T. IV. 595.) The savages of the Nicobar Isles "entertain, (says Mr. Fontana who visited them,) the highest opinion of such as are able to *read and write*; they believe that all Europeans, by this qualification alone, are able to perform acts *more* than human; that the powers of divination, controuling the winds and storms, and directing the appearance of the planets, is entirely at our command." (Acc. of Nicob. Isles by Nic. Fontana, Esq. in *As. Res.* vol. III.) Of all the Scandinavian heroes, Odin during his mortal state, was the most celebrated for prowess; among the northern tribes therefore he is the reputed inventor of all arts. It seems to be for this reason that Wednesday (Odin's day) was translated by our ancestors *dies mercurii*, the same attribute, in Greek and Roman mythology, being imputed to Mercury. (Mall Introd. to Hist. of Den. v. I. 91.) With the Grecian divinity, however, the rest of the parallel does not hold.

Among the inhabitants of the South Sea Islands, such appeared the undefinable nature and extent of European knowledge and acquirement, that Captain Cook is often observed to be treated by them as a divinity. Various instances in proof of this assertion might be quoted. Thus whilst the ship lay at Owyhee, a solemn deification of the commander took place in that fatal island. The inauguration was performed in the Morai, and was accompanied with all the ceremonies usually addressed to their idols, such as the presentation to him of every species of provision, as pieces of

commonly observed to be weak, and precarious. Many ages necessarily elapse ere very extensive property becomes vested in the hands of individuals, and ere time has given that sanction to the artificial influence of rank and office, which by accustoming men to submission, afford permanence and solidity to political establishments. The kingly power in rude states, accordingly, is often weak and revolutionary; and the claims of family descent, or authority, are not unfrequently superseded by the more forcible appeals of personal merit. Ambition for this reason finds more ample scope for its exertions during uncultivated, than during polished ages. In rude times, men though delighting in war, are not on that account, insensible to the glory or benefits of the arts of peace, and remunerate not only with

sugar cane, cocoa nuts, bread-fruit, plantains and sweet potatoes, together with the investment of the Maro, and the celebration of hymns in his praise. He was now stiled Orono or divinity. *King's Voy.* p. 7. On another occasion, after his apotheosis, a pig newly killed was held under his nose, in order that, like the Grecian deities, he might delight himself with the smell of the sacrifice, *ib.* 14. Yet the same people who had thus deified, did not scruple, soon afterwards, to assassinate the most humane of navigators. The truth is, among savage tribes the notion of celestial power is extremely limited, and but a step intervenes betwixt the state of divinity and a mortal. Fingal clove to the waist with his sword the spirit of Loda, and Diomed feared not to wound, with a mortal weapon, the heavenly frame of Mars and Venus.

unbounded applause the authors of useful discoveries, but even with the highest meed society has to bestow, the possession of sovereign authority. Those traditions, therefore, so common in the history of nations, which attribute the invention of arts to the primitive leaders or sovereigns of mankind, must not be considered as wholly fabulous. Society as yet in the generous season of youth, undebased by servility, undebauched by corruption, yields with ready equity to the claims of public desert; and the sage whose benevolence has planned, and whose capacity has executed schemes, or devised inventions fraught with extensive benefit to the community, is deemed not unworthy by its members, of being invested with an ample and liberal portion of its political power * (3). The same influence that in rude

* Of the force of this principle the following apt illustration occurs in the ancient history of Egypt as detailed by Diodorus. After relating that the praise of discovering the esculent qualities of the Lotus, as well as of other indigenous vegetables, was in Egyptian tradition, nearly equally divided betwixt Isis and the earliest of their kings, Menes, the compiler proceeds to remark, “Οἱ δὲ ἱερεῖς ἐνέβλην μὲν τῶν παιδείων καὶ τῶν τεχνῶν μυθεολογοῦσι τοῖς Ἑγμῶν γεγονέναι, τῶν δὲ ὡς τοῖς βίοις ἀναγκαίων τοὺς βασιλεῖς. διὰ καὶ τὸ παλαιὸν παραδίδοσθαι τὰς βασιλείας μὴ τοῖς νεωτέροις τῶν ἀρχαίων, ἀλλὰ τοῖς πλείοσι καὶ κυρίως τοῖς πληθεύουσιν.” Diod. Sic. L. I. c. 43. It is related by the same author that Erectheus, by birth an Egyptian, having carried from his native country, during a famine of Europe, a large quantity of corn to Athens, was raised to the throne of that city by the gratitude of the inhabitants. Diod. Sic. L. I. 29.

times awaits extraordinary attainments in other branches of knowledge, would be no less likely to attend surpassing information in the resources of healing. Among a barbarous people, nothing appears so well adapted to excite unbounded admiration and applause as that medical skill which seems capable of arresting, as it were, by some secret or magic force, the customary progress of pain, or disease. Such qualification, it is no improbable belief, might often be successfully employed, during early times, to favour the purposes of ambition. Whatever augments personal consideration, is then convertible into a source of power; and amidst the loosely constructed governments of Greece, no inconsiderable accession of authority might have accrued to her barbarous kings or leaders, from uncommon proficiency, real or pretended, in the supremely useful arts of the physician or surgeon*.

By considerations such as the above, may we, I think, in great measure, account for the singular phenomenon presented to view in the early annals of European physic, the ascription of its first improvements to the different petty sovereigns of the Grecian states.—If dismissing here the tales

* After curing the daughters of Proetus, Melampus, if we believe tradition, was rewarded with the sovereignty of a third of his kingdom, and the hand of one of his patients in marriage.

and credulity of tradition, as well as stripping away the veil of fable in which the lineaments of our art, during this period, are so often involved, we seek to examine it under its genuine form and aspect, it will be found, as might reasonably be expected, largely to partake in the corresponding rudeness of the age. So far as can be deduced from the narrative of Homer, and the other poetical annalists of Greece, the physic of the heroic time appears of a nature almost wholly *Surgical**; even here in its attainments narrow and superficial, boasting, for its highest proficiency, little more than a slight degree of manual dexterity with which to extract the various weapons of war that might be

* The term *ιατρος*, medicus applied by Homer to the medical chiefs of the Iliad has been uniformly, though erroneously in all our English versions, translated by the word *Physician*. It evidently however, in its own nature, and as meant by the poet, denotes nothing more than simply "A person skilled in healing." During the heroic times, physic in Greece had by no means grown up into a separate profession, and a still longer time was to elapse, ere a thorough separation was to be effected betwixt the purely medical, and purely surgical departments, of our art. Even so late as Hippocrates, no signs of such distinction are discernible, the great practitioner of Cos appearing evidently to act in his own person, indifferently both as physician, and surgeon.—If we believe Sextus Empiricus a learned Greek physician of the methodic sect, the word *ιατρος* is derived from *ιασ*, sagitta, because the first surgery known in Greece was employed chiefly in the extraction of arrows, and other weapons, from the body.

infixes in the body (4), certain crude notions in anatomy *, and the knowledge of a few simples that might be applied with advantage to the cure of wounds and ulcers (5). Such as it was, however, certain peculiar circumstances of the age would tend to throw it more particularly into the hands of the chieftains. Of these, two perhaps may be accounted the principal; one, the exalted rank held by these personages in the community, the other, their unbounded attachment to the pursuits of a military life.

It was formerly stated that the first rise of Anatomy amongst mankind might probably be

* Whatever may be said of the heroic age, in Homer's time, at least, who is reported to have flourished a century and a half after the siege of Troy, and to have conversed with the grand-children of those heroes who fought in that celebrated war, there is reason to believe that the anatomical structure of the body had become tolerably known to the Greeks, such as the site of the principal viscera, the form of the chief articulations, and the course of the larger trunks of the blood-vessels. Thus in the fifth Iliad Diomed overthrows Æneas, by bursting with a ponderous stone, the two ligaments that secure the thigh joint, the capsular, and the round; and by breaking the head of the bone itself in the acetabulum: in the 13th book Antilochus kills Thoon by dividing completely the great vein which runs along the back-bone towards the neck, unquestionably the ascending cava, while Ulysses in the ninth Odyssey meditates a blow at the Cyclop, with his sword, just where the diaphragm comprehends the liver.

derived from the practice, so early introduced into the world, of putting to death the inferior animals, either as offerings to the gods, or for the purposes of food. But to this source of anatomical knowledge, the chiefs from their rank in the community, would possess more easy access than other individuals. In Greece, during the heroic ages, flesh as aliment was scarce and dear, and its use by no means universal among the people. It appears confined entirely to the principal nobility or chiefs *, and such was the simplicity of the age, that the most distinguished princes or leaders, as often as they indulged in this species of provision, seldom failed to act in their own persons, both as

* In the beautiful speech of Sarpedon to Glaucus, in the twelfth Iliad, the former of these heroes, whilst enumerating the various marks of distinction serving to denote the high rank they bore among their followers the Lycians, mentions the exclusive use of animal food;

Γλαυκε, τίη δὴ γαῖε τίμωσινθεα μαλιστα

Εδεη τι, ΚΡΕΑΣΙΝ τι, ἰδὲ πλώεις δειπασσιν—

Afterwards, he exhorts his friend to the performance of valiant acts by this consideration, that when the Lycians see them eat the fat sheep, (πιονα μῆλα,) they may also perceive that they deserve such distinguished pre-eminence by their superior courage in the day of battle. Of this passage the original simplicity is entirely lost in the translation of Mr. Pope.

butchers and cooks *. During the same period, the office of priest had not yet been separated from the ruler of the community, nor engrossed as afterwards, by a distinct order of men. Hence to preside at sacrifices was one of the functions of the chief, to slay the victim, and above all to examine with attention those inward parts, by whose position and structure, a sure method was afforded; as the age believed, for ascertaining both the present and future designs of the divinity (6).—But to obtain competent acquaintance with the surgical acquirements of the age, rude as they were, a more powerful motive, among the leaders of hostile tribes, was to arise from their eminent utility. In the warlike emulation of the heroic ages, when rank and distinction among the dif-

* In Homer's account of the entertainment given by Achilles in his tent, to the heroes Phœnix, Ajax, and Ulysses, Patroclus puts into a large cauldron the chine of a sheep, goat and hog, and places it over the fire with his own hands. To Achilles only however is allotted the office of dividing the bodies into separate parts, as well as of spitting the different portions. Homer says that he cut them up skilfully, *ἐν μισυλλῇ* (Il. ix. v. 210.) Similar manners distinguished the chiefs of the Celts, who appear to have roasted their animal food, like the savages of the South Sea Islands, on heated stones. "It was on Cromla's shaggy side that Douglas placed the deer, the early fortune of the chace, before the heroes left the hill. A hundred youths collect the heath; ten heroes blow the fire; three hundred chuse the polished stones; the feast is smoking wide." Fing. B. I.

ferent chiefs, depended solely on their respective courage and abilities in war, whatever tended to alleviate the evils of the military life in which they were constantly engaged, would be proportionably prized. That skill in surgery, or acquaintance with the powers of plants, by which it was taught, how to extract the weapon from a wound, how to staunch the blood, or abate the pain, would be reckoned an acquisition of high importance to the most distinguished hero; nor would the gallant warrior ardent in the pursuit of military glory be disposed to consider that as a mean species of knowledge which might be applied to purposes so transcendently beneficial (7).

That some acquaintance with the resources of practical surgery was actually attained by these personages, therefore, becomes no improbable supposition. The acquirements of men will be found, for the most part, commensurate with their wants, and if to this circumstance be added the uniform testimony of tradition, the fact may be reasonably admitted that the aboriginal Princes of Greece possess an undoubted claim to be enrolled in the list of those who rendered the first services to medicine, or are in fact to be accounted among the most early benefactors of our art, in the European world. For this assertion, however, taken in its full extent, the proof may perhaps

seem in some measure defective; and for a position wearing the face of paradox, larger and more circumstantial evidence, may, it is possible, be required. To furnish such is no difficult undertaking, nor is the task itself one without its allurements. The legends of physic, during this æra, are agreeably intermixed with the fictions of poetry. The tale of a romantic age will not again be recollected without interest, and may even yet excite, in the mind of the classical reader, some of the ever pleasing, though half obliterated impressions of youth. Least however I might seem merely to narrate a school-boy's tale, it is by no means my intention to enumerate here all the instances of medical improvements attributed by the tradition of Greece to her early rulers. The examples and remarks that follow, will prove ample illustration to this part of the subject.

About the time of the Trojan and Argonautic expeditions, or during the heroic age, the countries of Greece most improved and civilised, seem to have been those situated towards the north. These by nature are the most fertile, and would of course be the most flourishing and populous, at an æra, when commerce being unknown, pasturage and agriculture constitute the wealth of nations. It is to Thessaly accordingly, and the neighbouring regions, that we are to trace the first dawn of arts

and policy in the Grecian world *. Medicine has been universally found to hold contemporaneous progress with other branches of knowledge, and the chieftains whom the voice of tradition has pronounced the principal benefactors of infant healing in Europe, may be discerned in like manner to have been natives of the same provinces. The five following may be esteemed the most distinguished among them, viz. Chiron, surnamed the Centaur, Æsculapius with his two sons, Machaon and Podalirius, and Acchilles, the hero of the Iliad.

Of this band of medical chiefs the most illustrious was Chiron the Centaur. He is supposed to be so named because by the poets he was fabled to have been half-horse, half-man, a fiction probably arising from an opinion current in antiquity that his countrymen, the Thessalians, were the first inhabitants of Europe, who reclaiming the horse from his wild state, tamed, and subdued him to the use of man. Chiron in reality was a distinguished chief of Thessaly, and is said to have been the common preceptor of almost all the heroes who figured in the Argonautic and

* Of the forces assembled at Troy, it appears from Homer, that nearly one-fourth part was drawn from the Thessalian provinces. For the project of her first general council, that of the Amphyctyons, Greece was, in like manner, indebted to the north.

Trojan expeditions. By the voice of tradition he is reckoned the great father of medicine in Greece, an honour to which it appears he may justly enough lay claim, since we learn that, among other heroes, Esculapius himself was his pupil. His principal excellency is said to have lain in the management of wounds and ulcers, as already remarked, the only physic of the age in which he lived. So celebrated was he in tradition for the cure of ulcers, as we are informed by Galen, that when a sore was obstinate, and could not be healed up, it was customary, in later times, to call it a *Chironian ulcer*, intimating by the expression, that it was an ailment of such malignity as to baffle the skill even of Chiron himself. Tradition imputes to him the discovery of the virtues of the greater and lesser Centaury, and the plants themselves are supposed to derive both their present and ancient appellations from the same circumstance.

Of the pupils of Chiron the first in medical reputation was Esculapius. This person was also a prince of Thessaly, and one of the heroes who embarked in the expedition of the Argonauts, as his two sons, Podalirius and Machaon, engaged afterwards in the cause of Greece against Troy. He is said to have extended medicine even beyond the bounds of his master Chiron. Not only deeply versant in the surgery of his age, the

knowledge of external medicaments, and the art of incisions, he is represented to have pushed his researches into a more difficult department of healing, that which is at present entitled the *practice of physick*, (Pind. Pyth. 3. Gal. de Sanit. tuend. L. I.) a branch of our profession formerly confined to the ministers of religion, and little cultivated among the rude and warlike chieftains of Greece *. In after times the medical fame of Esculapius far eclipsed that of his preceptor Chiron, as well as every other hero of the heroic ages. Early invested with the possession of divine honours, he was long revered by antiquity as the principal god of medicine, not only throughout the different countries of Greece, but those, that at a posterior period, formed the wider circle of the Roman world.

* The healing accomplishments of Esculapius are thus enumerated by Pindar in his Third Pythic:

τροφή γ' κάλων ἰγ'.

Τοὺς μὲν ὦν, ὅσσοι μέλον, αὐτοφύτων

Ἑλκείων, ἢ ξυνόνοες πολίων

Χαλκῶ μέλη τετραμένιοι,

Ἡ χρεμάδι τληβόλοι,

Ἡ θεινῆ πυρὶ περβόμιοι ὄμμας, ἢ

Χαιμῶν· λύσαις ἄλλοι ἄλλοιων ἀχίων

Ἐξαγαν· τοὺς μὲν μαλακαῖς

Ἐπαιδαῖς ἀμφίπων,

Τοὺς δὲ προσηνέα πίνοισας, ἢ γύνους περὶ πλιν παλίοθι

Φάρμακα, τοὺς δὲ τομαῖς, ἵεσσι ὀρεοῦς.

Various other of the Grecian chiefs are said, like Esculapius, to have received medical instruction in the celebrated cave of Mount Pelion, as Hercules, Aristæus king of Arcadia, and Teucer the brother of Ajax. Grecian Herborists describe two plants of which from the uncertainty of ancient nomenclature, it might be vain to seek the true modern names, the one stiled Heraclion, the other Herculean Poppy, both so named because by tradition the first discovery of their virtues is said to have been made by Hercules. (*Le Clerc Hist. de la Med. p. 31.*) The herb called in English botany, Hercules' all Heal, or Wound's Wort, is asserted to have got its appellation from the same legend.

Aristæus king of Arcadia, or, as some say, of Messene, is reported to have first taught the use of the Silphium or Laser, supposed to be the modern Benzoin, a resin of which the vulnerary qualities are still acknowledged by modern surgeons. For the same reason the herb Teucrium, it is pretended, has been so denominated from Teucer the brother of Ajax. But to the readers of Homer the pupil of Chiron best known is Acchilles, and him we learn from the poet to have been eminently skilled in all the medicine of his age, as well as the other arts of his master. The herb *Acchillea* accordingly is believed to have been so named because its virtues are said to have been

first pointed out by Acchilles, a botanical appellation at present bestowed on a numerous genus of plants, one species of which was afterwards to boast high rank as a medicine in the estimation of the celebrated Stahl and his disciples *. To the same hero we are said likewise to be indebted for our knowledge of the first mineral substance employed in surgery, verdigris or carbonate of copper, an article, we are informed, Acchilles was accustomed to employ as an application to wounds. Thus Pliny relates, that in ancient pictures, it was common to represent him in the attitude of scraping this substance from the point of his javelin, in order to sprinkle it on the wounds of Telephus, a remedy, that among others, he might have learned from the centaur Chiron, since we know from Homer that this celebrated weapon, so fatal to the warriors of Troy, was the gift of Chiron to his father Peleus. But the fame of Acchilles in medicine has been lost in the splendor of his warlike exploits, and has been eclipsed in after times by the medical reputation of two co-temporary chiefs, Podalirius and Machaon, the sons of Esculapius. These princes who inherited the skill, as well as dominions of their father, Homer brings from *Æcalia*, *Tricca*, and *Ithome*, cities or districts of Thessaly, situated on the romantic *Peneus*, whence the Poet says they con-

* The *Acchillæa Millefolium*, or English Yarrow.

ducted thirty ships, and three thousand warriors to the siege of Troy. Of the two brothers. Machaon has been reputed the elder, as well as the more dexterous in paternal arts, (Le Clerc Hist. de la Med. L. I. c. 17,) though, could we believe what is asserted in tradition, his brother Podalirius might prefer a better claim to the honour and admiration of posterity, since he is reported to have been the first person who exhibited to mankind the practice as well as utility of blood-letting. Of his title to this discovery, however, the evidence seems extremely defective. Besides that the only direct testimony in his favour is derived from the late authority of a Byzantine historian *, strong negative proof appears to be

* Stephen of Byzantium in voce Syrna. It is related by this author that Podalirius, in his return from the siege of Troy, being shipwrecked on the coast of Caria, was called to visit the king of the country's daughter, who had accidentally fallen from a house-top, and that of the bruises she received, he cured her by letting her blood at both arms. The legend adds that the fee received was the hand of the lady in marriage, together with the chersonesus of Caria; where he is said afterwards to have founded the two cities Syrna and Bubastus. When it is considered that the peninsula of Caria is adjacent and precisely opposite to Cos, it becomes no improbable conjecture of Haller, that the Asclepiadæ who inhabited that island, and who presided over the celebrated temple erected in honour of their great ancestor Æsculapius (Asclepias) had originally derived their origin from this colony established by his son. Cos as is well known, was the birth place of Hippocrates

supplied against him in the silence of Homer. The bard of Mœonia who has delineated the manners of a rude age with the fidelity of a historian, no less than the fervour of a poet, has in many parts of the Iliad, the great source of our knowledge concerning the heroic time, described with scrupulous and simple minuteness the treatment of wounds as practised by the most celebrated leaders of the Grecian camp, yet is observed no where to make any mention of blood-letting.

The great father of medicine in the western world acknowledges his obligations to the numerous cases of the sick preserved in the sacred edifice, by the care of his forefathers and relatives the Asclepiadæan priests; and he used to boast his descent in a direct line from the hero Podalirius.

NOTES.

(1) IN every country, almost, of whose early records any memorial has been preserved, poetical, has been found to precede, prose composition. For proof of this assertion, so far as regards the five great Asiatic nations, *viz.* the Persians, Hindus, Arabs, Tartars, and Chinese, who may be justly termed the progenitors of mankind. (See Discourses in these several nations in the Works of Sir W. Jones, vol. I. Maur. Hist. of Hind. vol. V. 918. Wilkin's Bhagvat Geeta p. 144. Note.) Instances to the same effect may be deduced copiously from the History of the Aborigines of Europe. Thus among the Greeks, prose writing was not known, or at least not commonly practised, till the time of Pherecydes of Syros who flourished so late as the seventh century before Christ. Previous to the invention of alphabetic characters, the measures of poetry are found extremely convenient for accommodating to the memory, and in that manner preserving from oblivion, the various records of oral tradition. Hence in early times and among barbarous nations, besides political events, even the institutes of law and religion are generally committed to poetical numbers. The word *nomos*, in the Greek tongue, is used to denote both a law, and a verse, because, says Aristotle, it was customary of old to clothe the enunciation of laws in the strains of poetry that they might be more easily preserved in the memory. (Arist. Prob. sect. 19, Prob. 28.) It may be for this reason that Apollo is reputed the first legislator of Greece, and is said to have promulgated his legal ordinances to the sound of his lyre. Many of the regulations of Draco, Solon and Lycurgus were couched in

verse, and the twelve tables of Rome in some places, seem to affect a sort of rhythm. The laws of the ancient Spaniards, as we learn from Strabo, were also composed in poetical measure, as likewise those of Tuiston the old legislator of Germany. (Gog. Orig. des Arts Eng. Trans. vol. I. 28, 29.) Of our Scandinavian ancestors, the records, as is well known, were entirely poetical, and Saxo Grammaticus is said to have drawn the first six or seven books of his history from the songs of the Danish bards. The same assertion is true of the Celts, as demonstrated in the Ossianic fragments, and the poetical traditions of Wales and Brittany. (Mall. Introd. to Hist. of Denm. p. 390, 391.) Of this characteristic attachment of rude tribes to the forms and measures of poetry, a singular use was made by Lewis the Debonnair king of France. That monarch wishing to render his Saxon subjects converts to Christianity, caused both Old and New Testament to be translated into Saxon verse, that in the eyes of a barbarous race, he might give a more alluring form to the truths of the gospel. The expedient is said to have succeeded perfectly, the Saxons willingly getting by heart the sacred texts, and chaunting them like the songs of their bards. (ib. 362.) The whole institutes of Celtic religion and law, Cæsar relates, were committed to verse by the Druids and they were so voluminous that it required twenty years to record them in the memory. (Cæs. L. 6. c. 14.) Similar to other ancient annals of the east, the Hebrew Scriptures in many parts are clothed in the strains of poetry, and their primordial form is attested by the custom the Jews still preserve of chaunting them in their synagogues.—When Van Rheede was engaged in composing his great botanical work the “Garden of Malabar, Hortus Malabaricus,” he consulted the Vaidyas, or hereditary cast of Physicians among the Hindus relative to the medicinal properties of the different vegetables he describes. The information was always conveyed to him in verse, and was literally copied from their ancient books on

the subject of physic, some of which he found, from unquestionable evidence, to have been compiled at the remote period of 1500 years previous to the Christian æra *.

(2) Every imitative art must have its foundation in nature †, and the noblest species of poetry that which is stiled the Epopœa, will be found, in many instances, at bottom nothing more than a traditional, therefore poetical register, of the first wars or military exploits of nations. Heroic poetry is in fact a department of history, and the oldest extant. The Iliad and Odyssey of Homer come evidently under this description, and in latter times the Eneid springing from the former poem. Among the early Roman writings, compositions of this sort are not unknown. The annals of Ennius and work of Nævius, appear, from their fragments, to have been just a poetical record of the first wars of that people. And to the same class, though of a later date, may be referred the Pharsalia of Lucan, and Second Punic War of Silius Italicus.—Among the Orientals, in like manner, the principal epics are merely the traditional annals of their respective countries, as the Khosrau Nama of Ferdausi involving in its strains the early history of Persia, together with the Ramayan of Valmic, and Mahabarrat of Vyasa, both comprehending the primary records of Hindustan. Modern Europe exhibits many well known instances of similar production; as the Runes of the Scandinavians, Poems of Ossian and other heroic songs of the Celts, to which may be joined at a posterior æra, the Orlando of Ariosto, the Jerusalem Delivered of Tasso, the Lusiad of

* *The Sanscrit books, both of philosophy and medicine, Bernier saw in the libraries, when he visited Benares, were composed in verse. (Bern. Voy. T. II. 148.)*

† *Illud admonere satis est, omnia quæ ars consummarit, a natura initia durisse. Quintil.*

Camoëns, and Araucana of Don Alonzo de Ercilla*. The proper ground of the epic poet is one involved in the mists of tradition, and Lucan and Silius Italicus, more especially the former have erred widely in chusing an epoch for their works which admitting the certainty of history, must necessarily exclude the embellishments and advantages of fiction. A similar objection might perhaps be urged against the Lusiad and Araucana, did not the wonders of the new world both in America and Asia, by their novelty, in some measure compensate for the restrictions imposed by the truth of the narrative, on the imagination of the poet. The true æra however of the modern epic seems to be the time of chivalry and the crusades, a period not yielding in its requisites for the Epopœa even to the heroic ages of Greece. It is wonderful how few English writers have sought to avail themselves of this fruitful source of poetical subject. The heroes and heroines of Spencer are indeed knights and dames, but their allegorical nature destroys their interest, and they excite not in the reader those feelings of reality produced by the more substantial personages of Tasso and Ariosto. Dr. Warton is almost the only one of our poets who has dug in the mine of chivalry and the crusades, and the success of his labours has sufficiently demonstrated both the abundance and richness of the ore.

It was the dream of Bossu, as expressed in his treatise on

* *In the Library of Don Quixotte, were found three epic poems written by Spanish authors, and saved from general conflagration by the curate and barber, the Araucana of Don Alonzo de Ercilla, the Austriada of Juan Ruso Jurado, and the Montserrato of Christoval de Virues. From the Araucana copious and beautiful extracts translated into English verse are given by Hayley in the notes to his Essay on Epic Poetry. Concerning the Austriada and Montserrato I know nothing.*

the Epopæa, that in constructing every epic poem, the poet must begin with devising some great and general moral, to be kept in view throughout the whole work, and to the illustration of which every part must prove subservient; and it is contended that such was the process actually pursued by Homer in forming the structure of his *Iliad* and *Odyssey*. No doctrine so far as regards Homer, seems more visionary, or untenable. With all his excellencies, this great poet must be regarded as the rude and simple annalist of an unpolished age, and it would be unjust to try him by rules not invented till a later æra, and which perhaps exist no where but in the imagination of his judges. The homeric writings, like the songs of the other *Αοιδοι* or bards, bear internal evidence that they consisted originally of a number of disjointed rhapsodies, each composed in praise of a particular chief; and it is no unreasonable belief, that for the more regular form they were afterwards to assume, they were indebted, in part at least, to the industry of posterior editors, or compilers. With the principal outlines of his story and characters, Homer was probably furnished by tradition; he adopted them, it is likely such as they were presented, and it is no derogation from his extraordinary merits to say, that the ardour of his admirers has perhaps erred in attributing so much praise to him as has been frequently done, for the inferior beauty of unity of design in arranging his incidents, or constructing his fable. On the other hand, many faults have been imputed to him, with which for the reason assigned, he can be by no means chargeable. In this list are the numerous instances of lownesses, occurring principally in the *Odyssey*, while he is describing the domestic scenes of kings and princes, urged against him, with such insipid raillery and triumph, by the French critics. Had the historical nature of his writings been at all attended to, those foolish accusations might have been spared, as well as the zealous, but useless defences of Dacier, and of several of his English translators, and commentators.

(3) The history of every people abounds with instances of this ascription of the most useful, therefore most ancient arts, to the superior intelligence of primeval sovereigns.

I. Orientals. Chinese. The art of kindling fire by rubbing two pieces of stick against each other is attributed by the Chinese to one of their earliest monarchs Sui-gin-schi. Martini Hist. de la Chine. T. I. 21. the art of spinning to the wife of their Emperor Yao. ib. 61. that of currying to Tchia-fang, Gog. Orig. des Arts Eng. trans. V. I. 122. that of dyeing to Hoang-ti. Mot. Hist. de la Chine. T. I. 41. The method of rearing the six domestic animals, viz. the horse, the ox, the hen, the hog, the dog and the sheep, with their uses for food and sacrifice; the construction of lines and nets, and their first employment in fishing, the rules of music, and invention of the lyre, are all ascribed to Fou-hi. Physic is also said to have been much indebted to the exertions of the same emperor. (Extracts from Hist. of China furnished to Goguet by M. Le Roux des Hautes Rayes Roy. Prof.) The first fabrication of cars and the balance, is given by tradition, to Hien-Yuene. Chin-nong another Chinese sovereign is celebrated for the discovery of the plough, the mode of rearing five kinds of grain, hemp, and the mulberry tree, for the art of making wine, with those of the silk and cloth weaver, and of the potter. Various important discoveries in medicine are likewise imputed to him. Thus he is said to have tried in one day 70 kinds of poisons, spoke of 400 diseases, and taught 365 remedies, &c. To Li-cheou is ascribed the regulation of numbers, and the invention of an instrument for computation described by Martini and Loubere.

Persians. Husheng surnamed Pishdad or the *Legislator*, the second of the Assyrian or Pishdadian sovereigns was the first who taught the Persians agriculture, more especially the art of irrigation; discovered mines of iron, as well as methods

of constructing it into weapons of war, and instruments of agriculture,—was the first who bred dogs, and leopards for hunting. (Works of Sir W. Jones, v. V. 588. Univ. Hist. v. V. 332.) Kejomaras the founder of the monarchy, and Caiumaras of Jones, instructed his subjects in the arts of building houses, of making woollen cloth, and of spinning and weaving silk, *ib.* 330. Gemshid fourth of the Pishdadians instituted public baths, taught to dive for pearls in the Green Sea or Persian Gulph; invented tents and pavilions; discovered the utility of lime in building. (Works of Sir W. Jones, v. V. 589.) The first use of the signet ring is attributed likewise to the same monarch. (Un. Hist. vol. V. 337).

Hindus. For the discoveries of their ancient sovereigns and legislators, see papers on antiquities of that people in Works of Sir W. Jones, *pasim.* (Robertson's Disq. on Ind. Maur. Hist. of Anc. India.)

Egyptians. The art of agriculture is imputed by them to Osiris, (Gog. vol. I. 34,) that of spinning, and making linen garments, to Isis. (*ib.* 129.) The praise of discovering the Lotus with other indigenous vegetables fit for food is equally shared betwixt the same personage and the first of their kings, Menes. (Diod. Sic. L. I. c. 43.) Vulcan one of their earliest sovereigns is said by them to have invented the hammer, the pincers, and the anvil. (*ib.* 152.)

Phoenicians. The first employment of the purple dye is imputed to the Tyrian Hercules. (*ib.*) Cadmus, it is related, discovered mines of gold at the foot of the mountain Pangœus in Thrace, and instructed the Greeks in the methods of digging them and preparing the metal. (Plin. L. VII. sect. 57.) He also disclosed to the same people the first mines of copper, together with the methods of working them. (Hyg. fab. 274.) A mineral which fused with copper produced brass, and

which must therefore have been an ore of zinc, was known to the ancients under the name of cadmea, because the first knowledge of its use was imputed to Cadmus. (Plin. L. XXIV. c. 2.)

Jews. Solomon composed treatises on all animals, and on all plants, from the cedar of Lebanon to the hyssop that springeth out of the wall. (1 Kings, ch. iv. 33.) Josephus asserts that the ancient patriarchs invented both geometry and astronomy, and that it was with the view of perfecting this last science that their lives were so unusually prolonged, more especially that they might complete the astronomical period of 600 years, the Neros of the Chaldeans, and great year of the Jews. (Antiq. L. III. c. 3. p. 17.)

II. Western nations. *Greeks.* Medicine is not the only art imputed by tradition to the early chiefs and sovereigns of the Grecian states.—Thus their first knowledge in the uses of fire is ascribed to Phoroneus, son of Inachus king of Argos, (Pausan. L. II. c. 19,) of tillage to Ceres queen of Sicily, and Triptolemus, son of Celeus king of Eleusis. Lelex, earliest sovereign of Laconia, is reputed the first inventor of the mill-stone. (Paus. L. III. c. 25.) The art of manuring is attributed to Augeas, (Plin. L. XVII. sect. 6,) that of cultivating the olive, and making oil, to Cecrops king of Athens. Cecrops derived his origin from Sais in Lower Egypt, a district celebrated for the growth of the olive. (Syncell. p. 159, B.) The best olives known to antiquity were for a long time raised in Attica. Pheidon, prince of Argos, was the first who gave the metals used in commerce a regular form, he is therefore reputed the inventor of coined money in Greece. (Gog. vol. II. 311.) Erichonius, fourth king of Athens, is said to have invented carts. (Æl. Var. Hist. L. III. c. 38.)

Other Europeans. For their earliest acquaintance with agriculture, the inhabitants of Italy acknowledged themselves indebted to Saturn, those of Spain to Habes. (Gog. v. I. 34.)

Americians. Among the Peruvians their first emperor, Manco Capac, was revered as their instructor in agriculture, and the art of spinning is attributed to his empress Mama Oella. (Hist. des Inc. T. I. 22, 31.)

Such are examples of inventions and discoveries ascribed, by the gratitude of nations, to their early chiefs, and sovereigns. Many more might have been collected: it is probable the reader may think those already adduced too numerous.

(4) Two instances may be quoted from Homer, to show the manipulations usual among the surgical chiefs of the heroic ages, in their treatment of wounds. One occurs in the fourth Iliad, where Menelaus is wounded with an arrow, and restored by Machaon.

——— ἰ δ' ἐν μυστοῖσι παρίστατο ἰσότης φῶς· (Μαχάων)

Αὐτίκα δ' ἐν ζωστῆρος ἀρετῆτος εἰλεν ὄϊόν·

Τῷ δ' ἐξελκομένοιο, πάλιν ἄγων ἔχες ὄγκον·

Αὐτοὶ δὲ οἱ ζωστῆρα παναίολον, ἰδ' ὑπὸ νύκτι

Ζῶμα τι, καὶ μέγαν, τὴν χαλλυπῆς κάμαρ ἄνδρες·

Αὐτὰρ ἐπεὶ ἴδεν ἦλκος, ὃ δ' ἔμπροσθεν πικρὸς ὄϊος,

Αἶμα' ἐμυζήσας, ἐπ' ἄρ' ἔπια φάρμακα αἰδῶς

Πόσει, τὰ οἱ ποτὶ πύρεθ' φίλα φρονέει πύρεθ' Χαιρών·

Of this passage abounding with description too minute for poetical ornament, and ill adapted to English verse, Pope's translation, with exception of the two last lines, is extremely defective.

Where to the steely point the reed was joined,
 The shaft he drew, but left the head behind.
 Strait the broad belt, with gay embroidery graced,
 He loosed; the corslet from his breast unbraced;
 Then sucked the blood, and sovereign balm infused,
 Which Chiron gave, and Esculapius used.

The most remarkable circumstance here is the mode of curing flesh wounds by suction of the blood adopted by Mac-haon, a practice common to many savage nations, and among others, to the Iroquois Indians, as already mentioned.—The other example is in its surgical description more minute. It is where Homer details the management of the wounds of Eurypylus by Patroclus, who had been instructed in Chironian arts by his friend Acchilles. The request of Eurypylus for assistance is conveyed in the following words:

Ἄλλ' ἐμὲ μιν σὺ σάωνται, ἄγεα ἐπὶ τῆς μέλαινας
 Μαρῦ δ' ἔλαμ' ὄντον, ἀπ' αὐτοῦ δ' αἷμα κελαιπὼν
 Νιζ' ὑδάτι λιαρῷ ἐπὶ δ' ἥπιον φάρμακον πόσει
 Ἑσθλὰ, τὰ σὺ προῖσι φασὶν Ἀχιλλεύς διδιδάχχαι,
 Ὅν Χαιρων ἰδίδαξε, δικαίουτος Κυνίαιον.
 Ἴητροί μιν γὰρ Ποδολεῖριος, ἡδὲ Μαχάων,
 Τὸν μιν ἐνὶ κλισίῃσιν ἴομαι ἔλκος ἔχοντα,
 Σκνίζοντα καὶ αὐτὸν ἀρούρετος ἡσυχῆς,
 Κεισθαι· ὃ δ' ἐν πύδῃ Τρώων μένον ἐξὺν ἄρσεν.

But thou Patroclus! act a friendly part,
 Lead to my ships, and draw this deadly dart;
 With lukewarm water wash the gore away,
 With healing balms the raging smart allay,
 Such as sage Chiron, sire of Pharmacy,
 Once taught Acchilles, and Acchilles thee.
 Of two fam'd surgeons, Podalirius stands
 This hour, surrounded by the Trojan bands,

And great Machaon, wounded in his tent,
Now wants that succour which so oft he lent.

Cowper's version of the above passage seems far inferior to Pope's both in elegance, and accuracy.

————— But thyself afford
To me some succour; lead me to my ship;
Cut forth the arrow from my thigh; the gore
With warm ablution cleanse, and on the wound
Smooth unguents spread, the same as by report
Acchilles taught thee; taught himself their use
By Chiron, centaur; justest of his kind.
For Podalirius and Machaon both
Are occupied. Machaon, as I judge,
Lies wounded in his tent, needing like aid
Himself, and Podalirius in the field
Maintains sharp conflict with the sons of Troy.

The supplication of the wounded hero did not prove un-
availing, and the ministration of Patroclus is thus described by
the poet.

Ἦ, καὶ ὑπὸ τέργεσι λυγρὸν ἄγει ποικίλα λαῶν
Ἐς κλισίην· Στεῖπτον δὲ ἰδὼν ὑπέχυνε βοῆας.
Ἐνθα μιν ἐκλανύσας, ἐν μεγῷ τέρμει μαχαίρῃ
Ὅξ' ὀπίσθ' ἐκπικνύς· ἀπ' αὐτοῦ δ' αἷμα κελαινόν
Νίξ' ὕδατι λιαρῷ· ἐπὶ δὲ μέλαν βάλε πικρὸν,
Χεῖρσι διατρίψας, ἰδυνήσασιν, ἧ οἱ ἀπάσας
Ἔσχε' ἰδύνας· τὸ μιν ἴλος ἐτίσσει, πύσσει δ' αἷμα.

In order to show the native simplicity of the Homeric nar-
rative, it may be worth while to translate the above passage
literally, in contrast with the elegance of Pope. "Patroclus
having made an end of speaking, lifted upon his breast the

shepherd of the people, and bore him to his tent: there, his approach, being perceived, cow-hydes are spread by his attendants on the floor. Patroclus having stretched him upon them, cut out of his thigh, with a knife, the sharp, exceedingly bitter missile-weapon; washed away the black blood with luke-warm water, and applied a bitter root previously bruised, betwixt his hands, capable of abating pain. The root removed the whole pain, the wound dried, and the bleeding ceased." The use of rubbing the root here betwixt the hands was to render it more fibrous and flexible, and, of course, its contact with the wound more perfect, as also to elicit a portion of its juice. Rude tribes generally chew or bruise their vegetable simples before they apply them. Captain White relates, that while shipwrecked in Lagoa Bay on the south-east coast of Africa, he perceived the natives to cure wounds by means of an aromatic astringent herb. "I have seen them use it to stop any bleeding wound, with success, by chewing and applying it to the part, it is likewise used by them to cure pains, and they told me that it always succeeded." (Journ. of Voy. performed in Lion Extra-Indiaman, &c. by William White, Esq. Captain 73d Regiment.)

(5) What the simples were thus used by the chiefs of the heroic age, we have no certain information. Homer, who is the great authority on the subject, is almost entirely silent. That a considerable number was employed may be gathered from his poems, but when mentioned they are merely described from their effects. For the most part they are stiled *ἡμετερὰ φάρμακα*, soothing, pain-removing drugs. At other times the same virtues are ascribed to a bitter root, *ῥίζη πικρά*. It was formerly remarked that the principal medicines of which the discovery is imputed by tradition to the different chiefs, were either astringents or bitters, each sufficiently calculated for the cure of wounds and ulcers, in

the warm climates both of European and Asiatic Greece.—
In the eleventh Iliad, we have a passage which may be quoted
as an example of the general management or regimen during
the casualty of wounds, since it was practised by Machaon
himself in his own case. In some respects it will hardly meet
the approbation of the modern surgeon.

Ταῖσι δὲ τήνῃσιν πυκνῶς ὑπὸ Πηλεΐδῃσι Βακχιδῶ,
τὴν ἄρτι ἐκ Τειδῆος γέρον, ὅτι πέσεν Ληχίλιος,
Θυγατρί· Ἀρσινέην μεγαλήτερος, ἢ οἱ Ἀχαιοί·
Ἐξέλον, οὐκ ἔτι βολῇ ἀρνούμενος ἀπαύταται·
Ἥ σφῶν πρῶτον μὲν ἐπιπράττει τρυφάζει
Καλὴν, κυανέην, ἐξέων· ἀνὰ δ' ἐν' αὐτῇ
Χάλκειον κάθει· ἐπὶ δὲ κρέμει ποτῶ ἔλκεν,
Ἥδ' ἐκίβη χλωρὸν, περ' ὃ ἄλφειτα ἰερῷ ἄκνῃ·
Παρὲ δὲ δίπας περικαλῆς, ὃ οἶκος ἦγ' ὁ γεραιός,
Χρυσοῖσι ἤλαιοι πεπαρμένον· ἕσπετο δ' αὐτῷ
τίσσερ' ὕσαν, δοίαι δὲ πελειάδης ἀμφὶς ἵκασεν
Χρυσῶναι κρέβοντο, δύνω δ' ὑπο πυθμῆος ἦσαν.
Ἄλλος μὲν μογόντι ἀπακινήσκει τρυφάζει,
Πλῦτοι μὲν Νίσσερ' ὃ ὀ γέρον ἀμογητὶ ἔσχευ·
Ἐν τῷ ῥα σφί κύκῃσι γυνή, ἐκκυῖα βῆσιν,
Οἷον Πραμνίον, ἐπὶ δ' αἶγμοι κῆ τερὸν
Κήσι χαλκῶν, ἐπὶ δ' ἄλφειτα λευκὰ πάλυν·
Πινύμεται δ' ἐκίλειται, ἔπει ῥ' ὀπλίσσι πυκνῶ.
Τῶ δ' ἐπὶ οὖν πινού' —————

The draught prescribed fair Hecamede prepares,
Arsinoë's daughter graced with golden hairs:
(Whom to his aged arms, a royal slave,
Greece as the prize of Nestor's wisdom, gave;)
A table first with azure feet she placed,
Whose ample orb a brazen charger graced.
Honey new pressed, the sacred flour of wheat,
And wholesome garlic crowned the savoury treat.

Next her white hand an antique goblet brings,
 A goblet sacred to the Pylian kings,
 From eldest times, embossed with studs of gold,
 Two feet support it, and four handles hold;
 On each bright handle, bending o'er the brink,
 In sculptured gold, two turtles seem to drink:
 A massy weight, yet heaved with ease by him,
 When the bright nectar overlooked the brim.
 Tempered in this, the nymph of form divine,
 Pours a large portion of the Pramian wine;
 With goats' milk cheese a flav'rous taste bestows,
 And last with flour the smiling surface strows.
 This for the wounded prince, the dame prepares—

POPE.

It might be difficult in English poetry, to discover a translation more distinguished for a happy mixture of precision and elegance, than the above version of Pope.

(6) This primeval union of the kingly and sacerdotal office seems to have prevailed originally in all countries. Each petty chieftain during the simplicity of early times, being accustomed to preside, like the Jewish patriarchs of old, as prophet, priest, and king, over his own little community. As society advanced, however, a division is generally observed to have taken place betwixt the function of the pontiff and supreme magistrate, accelerated, or retarded, according to circumstances, in different regions of the world. For the existence of the ancient alliance at Athens we possess the testimony of Aristotle. (*Politic. L. III. c. 14.*) Immediately after that city, however, had exchanged her pristine monarchical, for a republican form of government, the priesthood with other branches of royal prerogative, is observed to have passed into the hands of the aristocracy. Thus, by the constitution of Solon, the superintendence of all public religious rites became vested in the three primary Archons, more especially

the second of these magistrates, who, in memory of the formerly existing union betwixt throne and altar, was distinguished by the title of *king*, while his wife was dignified with that of *queen*. (Demosth. in Notam. See also authorities cited in Hist. de l' Acad. Roy. des Inscr. T. XXXIII. p. 55.) The name of *Φιλοβασιλευς*, bestowed on those priests, who, corresponding in their office to the Curiones at Rome, presided over the private devotions of the different wards, into which Athens was divided, in all probability, took its origin from a similar circumstance. Precisely the same progress of affairs is observable at Rome. When the Tarquins were expelled, the whole royal functions were seized upon by the nobles, and among the rest, that of presiding over the national religion. Hence all the different priesthoods remained a long time in possession of the oligarchy, and were often converted by it into a formidable instrument of political power, more especially the appointment of the dies fasti and nefasti; and it was not till after many struggles that this exclusive privilege was in part, wrested from it, by the rising weight and authority of the commons, at the most splendid æra of the commonwealth, when all offices, civil, military, and sacerdotal, became alike accessible to every member of the state. This revolution is fixed by Livy at the year of the city 452. (Liv. L. X. c. 6.) During the whole permanence of the republic, however, one of the principal priests is observed to have retained the designation of royalty, being entitled *Rex Sacrorum*, *Rex Sacrificulus*, and it is well remarked by Cicero, that though in his time, and many ages previous, there was no longer a king of Rome, there was still a king of the sacrifices. (Cic. de Divinat. L. I. p. 40.)

The same intimate alliance betwixt the pontifical, and regal functions, is perceived to exist among the different rude tribes with which the naval discoveries of modern times have brought us acquainted; for example, among the Aborigines of

Canada, as described by Charlevoix. The *Jongleurs* of the Indian nations may be said to resemble exactly the Seers of the heroic ages *. Of the former it was the complicated business to ascertain the past, and predict the future, to regulate and practise every sort of superstitious ceremony and observance, and to cure diseases; but to offer up sacrifice at the shrine of the divinity, was the exclusive privilege of the chiefs of tribes, and heads of families. The words of Charlevoix on this point are remarkably precise, " Si l'on peut donner le nom de sacrifice aux offrandes, que ce peuple fait à leur divinités, les Pretres parmi eux ne sont jamais les Jongleurs; dans les ceremonies publiques, ce sont les chefs, et dans les domestiques, ce sont ordinairement les Peres de famille, ou a leur défaut, les plus considerable, de la Cabanne." (Charlev. Nouv. Fr. T. III. 364.) In the Society Isles, the priests form a regular and constituted body, but at the celebration of great sacrifices, as of a human victim, the supreme chiefs only have a right to preside. This regal prerogative is denominated " that of eating the man," (Vancouv. Voy. vol. I. 142,) no doubt from the practice common to all hierarchies, of the officiating priest eating himself part of the offering presented to the divinity.

(7) In the 11th Iliad we have a good example of the high estimation in which a knowledge of surgery was held among the chiefs and leaders of the heroic age. The passage relates to Machaon, son of Esculapius, and distinguished above all the other heroes for his skill in physic.

Οὐδ' ἂν πω χαλάρτο κλισίου θῆσι Ἀχαιοί,
 Εἰ μὴ Ἀλεξάνδρος, Εὐρύπης πόσις ἠυκρόμοιο,
 Πᾶντι ἀριεὺντο Μαχάονα, ποιμένα λαῶν,
 Ἴσ' ἐργολάχῃ βαλεῖν κατὰ δίξιον ἄμον.

* Such as Calchas in the *Iliad*, Theoclymenus and Leiodes in the *Odyssey*.

Τῇ σε περιδυσσιν μύρια πύοντις Αἰχμαί,
 Μήπως μιν, πολέμοιο μετακλινέσθας, ἔλυσαν
 Ἀντίκω δ' Ἰδομενεὺς προσιφάνει Νέστορα διοτ'
 ὃ Νέστωρ Νηλεΐδῃ, μέγα κῆδος Αἰχμαῖν,
 Ἄγρει, σὺν ἔχῃσι' ἐπιβήσοι· πάρος δὲ Μάχῃσιν
 Βαιόντο· ἐς τῆας δὲ τάχιστα ἔχε μαινεύμενος ἵππους·
 ἸΗΤΡΟΣ γὰρ ἈΝΗΡ ΠΟΛΛΩΝ ἈΝΤΑΪΕΙΟΣ ἈΛΛΩΝ,
 Ἴους τ' ἐντάμνει, ἐπὶ τ' ἥπια φάρμακα πάσσοι.

By some singular omission the first line of this passage is not at all rendered by Pope, and the meaning of the second is very imperfectly given. What follows is thus translated:

The spouse of Helen dealing darts around,
 Had pierc'd Machaon with a distant wound;
 In his right shoulder the broad shaft appear'd,
 And trembling Greece for her physician fear'd.
 To Nestor then Idomeneus begun;
 Glory of Greece, old Neleus' valiant son!
 Ascend thy chariot, haste with speed away,
 And great Machaon to the ships convey.
 A wise physician, skill'd our wounds to heal,
 Is more than armies to the public weal.

The terms here *ιστρος* *ιστρας* should evidently be translated not "physician," but simply a person "skilled in healing:" the function of Machaon and of other medical chiefs celebrated in the Iliad, being surgery, not physic, as the latter phrase is strictly understood in modern times. The version of Mad. Dacier, and of other moderns, has committed a similar mistake. By the French translator the concluding lines of the passage are thus rendered, "Un grand *medecin* comme luy vaut mieux que des bataillons entiers dans une armée, car il scait arracher et couper les traits qui sont dans les playes, et par des appareils admirables il appaise les douleurs des

blessez."—The late translation of Cowper is much more Homeric, or faithful than either. It is in fact almost literal.

For one, so skill'd in medicine, and to free
The inherent barb, is worth a multitude.

Place men in resembling situations, and their manners and sentiments will be the same. Hence the like high admiration for the powers of surgery is manifest among the chiefs and sovereigns who flourished during the time of Chivalry, and the crusades, a period in many respects bearing strong resemblance to the heroic age of Greece, as in the romantic spirit of its enterprizes, the combination of otherwise hostile leaders in one common cause, and the general confederacy of Europe against Asia. Thus in Ariosto, the furious Rodomont, a prince regardless of every tie human or divine, is withheld from violating the chastity of the beautiful Isabella whom he has completely in his power, by the promise of a wondrous medicine that would repel or cure the impression of fire, as well as stroke of every hostile weapon, and was therefore calculated to raise its possessor to the summit of military glory.

To him the damsel—would'st thou but ensure
My honour safe, a gift thou may'st procure,
Of far more worth than aught thou canst obtain
From what must fix on me eternal stain.
Scorn not a lasting prize, a prize to raise
O'er all the sons of war thy deathless praise*.

Hoole's Orl. Fur. B. XXIX.

* In this story of Rodomont and Isabella, Ariosto is said to have had in his eye a real transaction recorded of Marwan II. last Calif of the race of Omniades. This prince when in Egypt, fell desperately in love with a nun of the country, and by his

In the same poet the principal heroine Angelica, daughter to the king of India, is represented as eminently skilled in the arts of the surgeon, and by that qualification successfully ministering to the thoracic wound of Medoro.

E revocando alla memoria l' arte,
Che in India imparò già di Chirurgia,
(Che par che questo studio in quella parte
Nobile, e degno, e di gran laude sia).

Orl. Fur. Cant. 19.

Then to her mind she call'd, whate'er before
In India taught, she knew of healing lore;
An art in which such numbers there excell'd,
An art by all in praise and honour held:

Joined to her other knowledge she is said to have been acquainted with an herb,

Que stagna il sangue, e della piaga rea
Leva ogni spasmo, e perigliosa pena.

ib.

The blood to staunch, and from the wounded part
Each dangerous symptom drive, and ease the smart.

Hoole.

Arts are ever valued in proportion to their usefulness, and the prose compositions that celebrate the chivalrous time, as the works of Knight-errantry written during the middle ages, are

power soon got possession of her person. The pious virgin, to preserve herself from violation, is related to have used the same stratagem with that practised by Isabella. (Herbel. Bib. Or. Art. Marcan.)

found no less lavish in their praise of surgery, than the strains of the Italian poet. Thus in one of the most considerable of these productions, *Amadis de Gaul*, the *Masters* as they are stiled, or professors of that branch of healing, are every where treated, more particularly Master Helisabad, with the highest deference and respect; and as in the heroic age of Greece it was customary for each chieftain to learn the treatment of wounds and bruises from the lips of Chiron, so in that of Chivalry, it became part of the education of every valiant knight to be instructed in the proper management of those external injuries to which, from the dangerous nature of his employment, his frame was perpetually liable. This trait in the manners of Chivalry, it is well known, has not escaped the powerful ridicule of Cervantes. (See *Adventure of the Salutiferous Balsam* in *Don Quix.* vol. I.)

Among the heroes of the Celts, in like manner, who are celebrated by Ossian, as among those of Homer and the chivalrous poets, skill in surgery is described as the peculiar attribute of the most distinguished chiefs and warriors. In the epic poem of *Temora*, Cathmor after having been wounded, is thus addressed by Fingal: "No fire am I to low laid foes: I rejoice not over the fall of the brave. *To close the wound is mine: I have known the herbs of the hills. I seized their fair heads, on high, as they waved by their secret streams.*" (*Temor.* B. VIII.) It is added by M^rPherson, in a note, that "Fingal is very much celebrated in tradition, for his knowledge in the virtues of herbs. The Irish poems concerning him often represent him curing the wounds which his chiefs received in battle."—Gaul son of Morni, who might almost be stiled the second hero of the Ossianic fragments, as Fingal was the first, thus bespeaks Oithona who had been wounded by mistake whilst habited in the armour of a man. "Can the hand of Gaul heal thee, youth of the mournful brow? *I have searched for the herbs of the mountains; I have gathered*

them on the secret banks of their streams. My hand has closed the wound of the valiant, and their eyes have blessed the son of Morni." (Oithona.)

If these passages in the Celtic bard be not original, it must at least be admitted that M'Pherson has studied with attention the great model of the heroic writings, and has imitated, with sufficient skill, the characteristic sentiments of a rude and warlike period. It is remarkable that Virgil has transgressed singularly against costume in this respect. The action of his poem is laid in the heroic age, yet has he in the twelfth Æneid represented Iapis, who ministers to the wound of Æneas, as degraded by his knowledge of surgery. The lines are otherwise extremely beautiful.

Jamque aderat Phœbo ante alios dilectus Iapis
 Jasides; acri quondam cui captus amore
 Ipse suas artes, sua munera lætus Apollo,
 Augurium, citharamque dabat, celeresque sagittas.
 Ille, ut depositi proferret fata parentis,
 Scire potestates herbarum, usumque medendi
 Maluit, et *mutas agitare inglorius artes.*

Nothing can be more repugnant to the notions of the heroic times than the sentiment expressed in the last line. That skill surely could not then be deemed degrading which Homer has pronounced of more value to armies than the force of whole battalions, nor could he reasonably be accounted *inglorious*, who had for companions and rivals of his art almost every sovereign of the Grecian states, Theseus and Jason, Hercules and Achilles. The truth is, Virgil has by mistake transferred the manners of his own countrymen, among whom, as is well known, the practice of physic was often vested in the hands of slaves, to the personages of the heroic period. What renders the error more remarkable is

that he himself in the second book not only classes Machaon, the great medical chieftain of the Grecian camp, along with the most distinguished heroes of the Iliad, but celebrates him as the most active leader in one of the most daring enterprises of the whole war, that of the wooden horse.

————— illos patefactus ad auras
Reddit equus, lætique cævo de robore promunt
Tisandrus, Sthenelusque duces, et dirus Ulysses,
Demissum lapsi per funem; Athamasque, Thoasque,
Pelidesque Neoptolemus, *primusque Machaon,*
Et Menelaus.—

SECT. II.

Priestly Medicine of Greece.

BUT besides the ascription of honours in physic to her aboriginal sovereigns, another circumstance no less singular, and of more importance, presents itself to view, in the medical archæology of Greece. This was the alliance perceived to have arisen betwixt our art, and her *Ministers of Religion*. Of these two appearances, often thus co-eval in point of time, and equally distinguishing rude medicine, the latter will be found, both of wider range, and longer duration, than the former. The obligations of healing to the chieftains, though countenanced by corresponding resemblances in other regions, yet rest chiefly on the traditionary annals of Greece; its association with religion, besides being familiar to the legends, is also confirmed beyond dispute, by the written testimony of nations. Accordingly, this last trait, invariably distinguishing the infancy, does not disappear from view during the adolescence, or even riper age, of medicine. It is found to give its colouring and clothing to physic not only during the ruder, but more advanced stages of society, and it may be recorded as a never-failing circumstance in the progress of our art, that an association,

more or less intimate, of its functions with those of theology, is to be discovered, sooner or later, in the medical annals of every people. In the species of healing, however, thus said to be cultivated of old by the hero, and the priest, a distinction is discernible. With the former, the attainments of surgery were to form the grand objects of attention, as might be expected from a martial age, and the natural habits of rude and warlike chieftains, while a new and more important branch of medicine was reserved for the priesthood. Leaving the care of wounds, ulcers, and other ailments, of which the causes were obvious, to the heroes, as better suited to the exigencies of a military life, it was the boast of religion, or its ministers, to devise a remedy for those more hidden and dangerous maladies that assail life, by attacking the whole constitution at once, or such distempers, the knowledge and management of which, in technical language, have been commonly denominated the *Practice of Physic*. Hence the former class of personages might not improperly be termed the surgeons, while the latter might be regarded as the physicians, of a rude age.—It must not be imagined, however, that this primordial alliance of physic and the altar was to exist only in Greece, it will be found equally to have flourished, as already remarked, among every people, not farther advanced than the Greeks of this period, in the road of civilisa-

tion. To explain a phenomenon, therefore, of such universal occurrence, it would be obviously vain to seek for reasons except such as are of the most general nature, or such as have room to operate in every country (1). Among the causes of its production, two, perhaps, are to be esteemed the most powerful, one, the profound darkness observed to hang over both the origin and issue of many general distempers, such as the priesthood was called to treat; another, the prodigious influence exercised by superstition over the minds of men, during remote and barbarous ages.

Of many diseases, more especially such as are at present known under the name of constitutional or general, the sources are so obscure as often to baffle inquiry, even during the most enlightened times. To calculate what prodigious changes may be effected on the human frame by the force of contagion, heat, and cold, together with varieties of air, exercise, and diet, the genuine causes of most distempers, is an effort of mind reserved for philosophical ages, and far beyond the reach of savage tribes. Nations immersed in barbarism perceive only what falls immediately under the cognizance of the senses. They neglect alike the future and the past, and in speculating concerning what strongly excites their hopes or fears, they are guided by imagination, rather than by judgment. If a frightful malady

break out in a savage village, or canton, the inhabitants are but little disposed to impute its ravages to causes such as those above enumerated, in their estimation, at once so feeble, and remote. They seek a more compendious, and to their comprehension, more natural, method, of accounting for the appearance. Deeply imbued with that species of superstition which considers even the most ordinary phenomenon of nature in the light of a miracle, or as the immediate exertion of celestial power, the Greeks of this period would readily ascribe the rise of many distempers, concerning whose mode of production they were equally ignorant, to a similar origin *. Nor is the

* Of this mode of reasoning, so familiar to rude tribes, we possess a beautiful example in the first book of the Iliad. During the tenth year of the Trojan blockade, as is recorded by Homer, a dreadful disorder broke out in the entrenchments of the Greeks, sweeping away whole ranks of the besiegers. On this occasion, however, the disaster is never once imputed to natural causes, and accordingly no application is ever made for assistance to any among the medical chiefs of the camp, Acchilles, Podalirius, or Machaon, but the evil is solely attributed to the operation of divine vengeance, namely that of Apollo, excited by the refusal of the commander-in-chief Agamemnon to ransom from captivity the daughter of his priest.—The remedies besides the restoration of the damsel, are such as we might expect, and such as the priesthood only could supply, prayers, hecatombs, lustrations, feastings, and pæans, in honour of the god. It is not unworthy of remark that at the common mouth of the Scamander and Simois, have been discovered, by modern travellers,

reasoning of early ages, on this occasion, chargeable with inconsistency. It is the common creed of ignorant nations to impute whatever signal calamity befalls them, of which the causes lie

extensive marshes, formed principally by the wintry torrents rolling down the channel of the latter stream, and giving rise in the neighbourhood, during the warm months, to dangerous endemic disorders. The Grecian camp, pitched, as every scholar knows, betwixt the Sigæan and Rhetæan promontories, must have been situated completely within the range of the marsh effluvia, and the pestilential effect of these vapours on the soldiers might be esteemed, (were it allowable to reason historically on this subject,) the genuine cause of the calamity in question, so fatal, in various respects, to the interests of Greece. The same neighbourhood, those who have visited the spot assure us, is no less unhealthy at the present hour. (Cheval. on plain of Troy. Dalz. Transl.—for description of camp, see II. XIV. 30.) In perusing the early annals of Rome, a destructive pestilence is observed, every few years, to break out within the walls, and which is as regularly imputed to the anger of some of the tutelary deities*. Varro, and other Roman writers, assure us, that the low ground surrounding the hills on which the city stood, was, at first, little better than an undrained marsh.—Among the Indian nations of North America, the small-pox often acts as a real pestilence, frequently extirpating whole tribes and villages. The disorder is never imputed to contagion, but solely and invariably to the displeasure of some malignant divinity. (Mackenzie Voy.

* *In little more than a century, that is betwixt the year of the city 291 and 407, no less than four of these Plagues made their appearance at Rome. (See Liv. L. III. c. 6. L. V. c. 13. L. VII. c. 2. 27.)*

concealed, not to its real sources, but solely to the awakened vengeance of heaven. In the nature of the misfortune no distinction is made. Whatever affliction ensues is alike the effect of divine interference, and the same powerful and angry being whose hand wields the thunderbolt, or directs the tempest; who scatters famine over the land by withering up the sources of human subsistence; or who dispenses discomfiture and dismay in the day of battle, is believed no less capable or accustomed, if his ire be kindled, to deal out death among the people, by the more subtle, though not less forceful energy, of some fatal distemper. Against the last, as well as the former evils, the aid of religion was to be invoked, not the assistance of physic. The deity must be propitiated, and for this purpose the most proper persons to be applied to were the priests, as those members of the community, by their office, the best qualified to mediate with the gods, and induce them to suspend some portion of that severe displeasure the manifestation of which had been attended with consequences so signally calamitous (2).

XIV. XV.)—In Hindustan, the common endemic Hepatitis, or liver disease, is imputed by the natives to a species of sorcerers termed by them Jiggerhars, or liver eaters. Ayeeen Akberry, vol. II. 144.) These poor creatures are often tortured for this imaginary crime, like the witches of Europe formerly, who as every school-boy knows, were in the habit of inflicting, on those they hated, a great variety of distempers. (See Satan's Invis. World.)

At first, it is likely, all the gods, or rather their ministers, would be resorted to indifferently, in order to procure counsel or assistance, during the prevalence of such disorders as excited forcibly the fears of men *. By degrees however, owing to a variety of circumstances, such as superior address among particular priests, or more fortunate practice in the art of curing distempers, certain divinities would obtain ascendancy over others, and be reputed either more capable, or more disposed, to confer on their votaries the benefits of medical advice. There would thus spring to notice a band of celestial personages eminent above the rest for their healing attributes, and there would be furnished to the calendars of polytheism a due number of deities whose principal function was supposed to consist

* Almost every deity of pagan polytheism appears occasionally to have exercised the benevolence of divine power in the cure of diseases; as Isis, (Diod. L. I. c. 25,) Serapis, (Strabo, L. xvii. p. 801,) Jupiter, (Hor. L. II. Sat. 3. v. 286,) Minerva, (Plin. L. vii,) Venus, Ælean. (Varro. L. xii. c. 2,) Juno Sospita et Lucina; Bacchus, (Pausan. in. Phoc.) Vulcan, (Gal. de Comp. Med. per genera, L. v. c. 2,) Pluto and Proserpine, (Strab. L. xiv.) Mercury, (Grut. M. L. xvii.) Castor and Pollux, (Vink. Amæn. p. 86,) &c. The same character has been attributed, with still more unsparing hand, to the whole Divi and Divæ, of Catholicism. Not a saint, male or female, of the calendar, can be named, who has not been invoked, and if we believe their votaries, successfully too, for the cure of distempers.

in mitigating, or removing, the sufferings of disease, and who were therefore more peculiarly entitled than others to the appellation of *Medical Gods* *. For a similar reason, there would soon

* The mythologies of all nations abound with beings of such description. Among the Greeks and Romans, the great medical gods, as every body knows, were Apollo, and his son Esculapius. In Egypt, on account of the multitude of priests, who, as hereafter will appear practised physic, similar attributes were ascribed to almost every deity, as Isis and her son Horus, Osiris, Apis, Serapis, to whom may be added the Decans or thirty-six Demons of the air. (Hall. Bib. Med. Pract. T. I. 10. Origen contra Cels. L. VIII.) In Iran, the principal celestial personages addressed for health were the thirty Eons, beings analagous to the Decans of Egypt, together with the deified Feridun, a prince and hero of the Pishdadian line. It was from these Eons of Persia, according to Cour de Gebelin, that the Valentinians and other Gnosticks borrowed their thirty divinities. (Exposit. de Syst. Theolog. des Perses in Mem. de l' Acad. Roy. des Inscript. T. XXXV. p. 360. Monde Primit. T. IV. 183, 184.) Among the Hindus, the grand deities of healing were, and still are, the Aswinau, twin offspring of Surya, or the Sun; (Works of Sir William Jones, vol. I. 268;) and among the Talmudic Jews, I have discovered one medical divinity whose name is Pharmarus. (See Calm. Dissert. sur les bons et sur les Mauvais Anges, prefixed to gospel of St. Luke, in Comment. Liter. sur le Bible, T. VII.) In tracing the history of modern rude tribes, various deities may be noted whose exclusive function is to cure diseases, as among the Timmanes and Bulloms, on the coast of Guinea, near Sierra Leone, the spirits termed Griffee and Pom Mull? Winterbott. Sierr. Leon. vol. I. 233,) and among the Lithuanian

be invented by the priesthood a variety of superstitious ceremonies and observances, which, though at first purely religious, would become afterwards consecrated to the service of medicine, because for a long time they furnished almost the

Finns their old god Auskuhts, who notwithstanding their christian pastors, is still worshipped by the sick. (Tooke's view of Russ. Emp. v. I. 371.) In like manner several of the negro tribes adore Feteeshes whose powers are merely medical, as the people of Whydah, (Hist. Gen. des Voy. T. IV. 301,) and various of the Mokissos or gods of Kakongo, Loango, and Angoy, are invested with the same exclusive privilege, ib. 603: so in the island Quantalla, at the mouth of the river of Congo, a silver image is resorted to by the neighbouring tribes, whose sole attribute is to restore health, (ib.) &c. The Romish calendar furnishes innumerable deified personages of equal pretensions, as St. Dominic of Surriano in Calabria, the English St. Thomas a Becket, &c. (See Middleton's letter from Italy showing conformity of popery and paganism, prefat. disc. xxix, xcv, xcvi.)

That curing diseases was one of the great attributes of this last saint, is particularly noticed by Chaucer, as appears from the following lines:

And specially from every Schiege's end
Of England, they to Canterbury wend,
That holy blissful martyr for to seke
That hem hath holpen, whannè they were sik.

Prol. to Cant. Tales. ver. 15.

Among other medical saints may be enumerated St. Ficarius, famous for curing the piles, and all other discharges per anum.

only remedies known to mankind with which to combat the assaults of constitutional distempers (3).—But besides the diseases that terrify men by the fury of their onset, or rapidity of their progress, there exist others, it is well known, which though more tardy in their steps, are no less fatal in their termination, and of which it is the insidious nature to consume life by slow and imperceptible degrees. In the distress of such maladies a new source of influence was to arise to superstition. Despairing of human aid, men naturally fly to heaven, and the exhausted victim of protracted malady, by ascertaining the will of providence, even though adverse, might reasonably hope to escape, at least, the evils of uncertainty. By the foreknowledge they possess, the gods might, at any rate, instruct the patient whether or not it were possible for him to obtain a cure; in the fulness of their benevolence, they might even vouchsafe to indicate the means the most likely to ensure its accomplishment. Opinions so favourable to its interests, by the priestly order would be eagerly encouraged. It would even be found convenient by this class of men, in their treatment of diseases, not to trust altogether to the inspiration of the deity. Obligated by their sacred function not only to foretel the issue, but to prescribe a cure for distempers, a powerful motive would arise for rendering themselves acquainted, in the completest manner

possible with all the physic of the age. And for this purpose facilities awaited the priesthood not easily accessible to other men. The temples of the gods, over whose service they presided, were the perpetual resort of the sick*; in the multitude of cases that presented themselves, observation stimulated by interest, might readily acquire no mean information regarding the modes of terminating; and principal symptoms incident to a variety of diseases; and the necessity incumbent on the sacerdotal office of dictating medical responses from the holy shrine, might in time lead to such a knowledge of the powers of medicine, as was sufficient for the cure, or alleviation, of

* It was customary for patients to repose, during the night, in many of the pagan temples, in order that they might be at hand to receive the medical admonitions of the divinity. This practice is found to have prevailed at the fanes of Esculapius, Isis, Serapis, Pluto and Proserpine, Bacchus, Castor and Pollux. The prescription was usually communicated during a dream, or vision. This species of imposition continued long after physic had grown up into a separate profession, and has not failed to encounter the ridicule both of Aristophanes, and Lucian. The former relates, that it was customary for the priests to dress themselves in the habiliments of the deity, and to deliver, in his person, such medical directions as seemed necessary for their patients. The sick, on the other hand, though they perceived the cheat, said nothing, and if they did not sleep, at least pretended, to do so. (See Hall. Bib. Med. Pract. T. I. 12, 13.)

many of those maladies they were in the daily habit of contemplating (4).

On those occasions when it became matter of peculiar solicitude to learn the doubtful event of some tedious or painful distemper, that god would naturally be resorted to the most eminent for his supposed skill in the science of prediction. Among the ancient Greeks, it is well known, the divinity celebrated above all others for this qualification, was Apollo, and by the address of his priests, the opinion might likewise be rendered popular that the same deity was no less disposed and qualified to remove the disorder itself, than to foretell its issue *. Whatever probability may

* It is well known Greece derived most of her greater gods from the East, and Apollo appears evidently to be the Horus of Egypt. According to the mythology of Africa, Horus was the son of Isis the patroness of physic and augury, two arts in which he is said to have been amply instructed by his mother. (Diod. L. I. c. 25.) An identity of race between the ancient Hindus, and old Egyptians, has been elsewhere proven, or at least rendered extremely probable, and in the opinion of Sir William Jones, the Isi and Iswara of Hindustan were decidedly the same personages with the Isis and Osiris of Egypt. Surya or the Sui was the Phœbus of the Hindus. Like Apollo, he is represented as often mingling his race with mortals, and his descendants are no less celebrated in Indian, than the Heliadæ, in Grecian fable. Esculapius, as already stated, was the offspring of Apollo: the Aswinau, or Aswini-cumarau in the dual, were the twin sons of Surya. By a

be allowed to this supposition, certain it is, that from the most remote antiquity, the god of augury, in the Greek and Roman world, has also been esteemed the god of healing; and it is not unreasonable to infer, by the same mythological claim it is, that our art has ever been regarded as the legitimate sister alike of poetry, and music. It falls here to be remarked, however, that the supremacy of Apollo, in the medical godhead of Greece, was not for ever to continue paramount. The honours of his worship, it appears, were soon to be usurped by a younger divinity, concerning whose merits in his mortal state, enough has been already said, namely, the hero Esculapius. At what precise æra the surgeon of the Argonauts, and progenitor of Hippocrates, became first enrolled in the list of Grecian deities, it is not easy to ascertain, though his apotheosis, as appears from passages of the Iliad, must be regarded as at least posterior to the age of Homer. After

striking enough coincidence, the function of those deities, in Hindu mythology, was also *medicine*, and their business, like that of Pæon in the Iliad, was to cure the wounds of the gods. (Il. v. V. 899. Herod. L. II. c. 4. Diod. L. I. c. 12. Jones' Works, vol. I. 259, 268.)—The two great shrines of Apollo, in his character of prophet, were those of Dodona in Epirus, and of Delphi in Phocis; history and tradition assign to both an Egyptian origin. Dodona was founded by a run-away female minister from a temple of Thebes on the Nile, Delphi was established by certain natives of Crete, an island by its vicinity to Egypt, early initiated in sacerdotal arts.

deification, however, no medical god of antiquity could compare in eminence with Esculapius. The adoration of the divinity of Cos is observed to have flourished during a long succession of ages, and to have continued, with unabated splendor, till the final overthrow of Greek and Roman polytheism, at that memorable æra, when the empire of the East, exchanged, at the command of Constantine, the darkness of paganism, for the lights of christianity.

Having thus endeavoured to point out some of the principal causes that may have led to the second remarkable appearance exhibiting itself to view in the medical archæology of Greece, *the ascription of practical physic to her priestly tribe*, the next object of inquiry would be to ascertain what actual measure of improvement our art was to receive from the same body of men, during the currency of the heroic agè. Here, however, little information is to be derived either from history, or tradition. The truth is, there hardly yet had begun to exist among the Greeks any persons to whom, in their collective capacity, the title of *sacerdotal order*, as afterwards understood, could, in strictness of meaning, be applied. Amid the rudeness of the heroic times, the functions of the priest had not yet passed away from the ruler of the community, but continued to be exercised in their utmost plenitude, by the free and inde-

pendent princes of the Grecian states. The structure of hierarchical dominion is the fabric of ages, and Europe had not yet felt the sway of that powerful body, whose allotted function it is to guard the mysteries, and preside over the ceremonies of religion, but whom history too often shows abundantly willing to increase their influence by whatever means may present; at one time by all the arts of popular delusion, at another, by the most meritorious services, together with the most successful and happy cultivation of every branch of literature and science. For an ample share in the last species of praise, so far as medicine is concerned, it would be unjust to derogate from the claims of the Grecian priesthood. It will afterwards appear in the course of this work, that for the foundation of that portion of our art which treats of general distempers, and their nature, not only are we indebted to this order of men, but that from the same source have actually been derived various important discoveries and improvements in the no less useful, though less intricate, department of surgery.

But though in Greece, during the heroic ages, it would be vain to look for the traces of a regular priesthood, yet there were not wanting to her rude tribes the inspiration and prescience of *Diviners*, or *Soothsayers*. Owing to the association already instituted betwixt physic and religion,

some of these personages have been commemorated, in tradition, as the benefactors of our art. Two seem the most distinguished in this line of excellence, Melampus son of Amythaon, and the celebrated, but unfortunate, Orpheus.

. In tradition Melampus is reported as the first person who discovered the efficacy of a brisk cathartic, in the treatment of melancholy or madness, as also the first who ventured to exhibit, internally, a substance derived from the mineral kingdom. The purgative he employed was Black Hellebore, a plant which still attesting the tenor of tradition, has continued to retain in all botanical systems the appellation of *Melampodium* *. The mineral prescribed by him was rust of Iron, a substance which he ordered to be infused in wine, and administered on account of its tonic qualities †. That the medical achievements of Melampus held a strict connection with the prevalent superstitions of his age, appears from a variety of circumstances recorded in fable ‡. It is

* Discov. L. IV. c. 182. Gal. de Atra Bil. c. 7. Plin. L. XXV. c. 8.

† Apollod. p. 26.

‡ The two cures for which Melampus is found celebrated in the legend, are those of the daughters of king Prætus, and of Iphycus, one of the Argonauts: both of them exhibit strong marks of a priestly nature. The madness of his

of more consequence to his reputation for posterity to be informed, that he was one of the first among the Greeks, who perceiving the ignorance of his own countrymen, undertook a voyage to Egypt for the sake of instruction; (Diod. L. I. 96;) and it seems reasonable to believe that for his reputed skill in prediction, as well as his acquaintance with the powers of medicine, he was alike indebted to the priests of that kingdom *, an order of men long before famous not only for the advances they had attained in the vain science

female patients was supposed to flow from the anger of a deity, that of Bacchus, or of Juno, (Hygin. L. I. Apollod. L. III.) and in the medicinal virtue of rust of iron prescribed to Iphycus, he is said to have been instructed, after a solemn sacrifice, by a vulture, a bird sacred to Isis the great medical divinity of Egypt, and as we learn from Juvenal, one of her frequent incarnate forms. The gratitude of Greece erected temples to Melampus, where divine rites were solemnized in his honour.

* Melampus is celebrated for his poetical talents by Homer, and he is mentioned by Herodotus as the first person who introduced into Greece from Egypt the worship of the Phallus, (Herod. L. II. c. 49,) an emblem of the generative power of the deity, adored, from time immemorial, under the name of the Lingam, by the kinsmen or progenitors of the Egyptians, the Hindus. The Purans or mythological records of the last people assert the priority of India in this species of superstition, and relate that it was transported into Africa by the Pali tribes whose great god Mahadeva was commonly represented under this figure. (Wilford in *As. Res.* vol. III.)

of divination, but the proficiency reached by them, in the more useful arts of the physician.

To the distinguished reputation of Orpheus in poetry and music have been also added the honours of discovery in medicine, the stores of which he is said to have augmented, by pointing out to mankind, the effects capable of being produced on the body by various poisons *. If it be recollected that Orpheus was the companion of Jason in the Argonautic expedition, and like him, visited the shores of Colchis, a country infamous in antiquity for the production of every vegetable noxious to the life of man, the origin of this part of his reputation may be readily perceived; and if to this be added another circumstance in his life, that like Melampus, he was, at one time a pupil of the priests of Egypt †, a sufficient reason will appear why the most ancient of bards has been regarded, like the priests and heroes of his country, as one of the original benefactors to the art of medicine in Greece.

* Plin. L. XXV. c. 5. Gal. Antid. L. II.

† Diog. Laert. in Thal.—Diod. L. I. 23. 96.

NOTES.

(1) It is to be remarked that I employ the term *priests* here, under its widest possible acceptation, to denote not only those opulent, splendid, and learned Hierarchies which flourished of old in Asia, Africa, and Europe, as the Magi of Iran, and Brahmans of India, the Cohens, or Hermetic corporation of Egypt, and the Druids of Gaul and Britain, but also communities and individuals of far less note and consideration, as the Tahouas of Otaheite, and the other Society Isles, (Cook *passim*. *Miss. Voy.* 348,) the Angkoks of Greenland, (Crantz. *Hist. of Greenland*, B. III. ch. 5,) the Jongleurs of Canada, (Charlev. *Nouv. Fr. T.* III. 219, 220, et m. l. *alibi*,) the Ionas of the Floridians, (*ib.* T. I. 28, Lafitau *Mœurs des Sauv. T. I.* 292,) and Piayes and Boyes of the Caribs, (Roberts. *Hist. of Amer.* vol. II. 145, 330. Bancroft *Hist. of Guiana*, 310,) the Singhilli or Chinghilli of Angola and Benguela, (*Hist. Gen. des Voy. T. V.* 44,) the Ombiasses of Madagascar, (Rochon *Voy. to Madag.* 31,) the Schamans of pagan Tartary, (Tooke's view of *Russ. Emp.* vol. II. 284, et *alibi*. See also Gmelin *Voy. en Sibirie*,) the Car-vah-days of New South Wales. (Collins' *N. S. Wales*, 381, 388.) &c. &c. &c.

In like manner, by the appellation of *priest-physicians*, I understand all persons, who under whatever name, whether of Sorcerers, Magicians, Witches, Wizards, Conjurers, Seers, Prophets, or Necromancers, have ever interfered, by preternatural means, in the business of medicine. And upon the same principle I shall denominate every remedy *priestly* which professes

to cure diseases, through any other medium than the actual and accustomed laws of the animal economy. For the universal delegation of practical physic to personages such as the above, in all countries, during certain periods of society, the proof will be found as wide as the circumference of the globe itself. The following instances, and many more might have been adduced, taken from rude, or half-civilised tribes and nations, in Asia, Africa, and America will, probably, be sufficient to satisfy the reader.

ASIA.

Thus to begin with Asia, besides the Magi of Iran, and Brahmins of India, we find among the ancient Phrygians, knowledge in physic attributed to the Idæi Dactyli, so named from Phrygian, not Cretan Ida, holy sages, who are said to have introduced the worship of Zeus, or Jupiter into Greece. According to Pausanias, they were five in number, two of them stiled Pæonius and Iasius, evidently from the medical function ascribed to them. (Paus. L. V. p. 392.) To the west of Asia may be also referred the Telchines, indifferently written Telghines, from *τελχυν* mulcere, dolorem sc. whence the appellation *τελχυνος* bestowed on the god of medicine, Apollo. (Hist. de l' Acad. Roy. des Insc. T. XXIII.) In modern times, the priests have been found invested with the same employment in Tonquin, where they are stiled Thay-bou-toni, (Hist. Gen. des Voy. T. IX. p. 118,) in Aracan, (ib. 67,) in Sumatra, (ib. 156,) in Pégou, (ib. 568, Hamilton New Acc. of E. Ind. vol. II. 56. Lettr. Edif. et Cur. T. XV. 263,) in the Marian Islands, (id. T. X. 372,) in the Nicobar Islands, (Fontanas' Acc. of Nic. Isl. in As. Res. vol. III,) in the Caroline Islands, where both priests and priestesses exercise medicine. Their divinities are the souls of such men as the priests pronounce in a state of bliss, and are entitled Tatahup. Each priest has his Tatahup for the cure of distempers: (Lettr. Edif. et Cur. T. XV. 309:)

in the Archipelago of Liqueo lying betwixt Corea, Formosa, and Japan; (ib. T. XXIII. 219;) the same appearance is found to hold universally likewise in the north of Asia, as in Tibet, and those parts of Tartary that profess Buddhism; where the Lamas superintend the cure of diseases, (Father Parennin in Lettr. Edif. et Cur. T. XIX. p. 322. Hist. Gen. des Voy. T. VI. 604.) When Bernier was in Cashmere along with Aurengzebe, an ambassador from Great Tibet arrived with presents to the Mogul Emperor, bringing with him in his train a Lama physician. Bernier happening to fall sick, put himself under his care, and wanted to buy from him his book of receipts, but the other would not sell. (Bern. Voy. T. II. 309.) The Bonzes of China who are in fact Lamas, or preside over the rites of Buddha, still dabble in physic. Thus some of them attempted to cure the famous Chinese emperor Cang-hi, by means of prayers and incantations, assisted by frequent draughts of cold water, but failed. (Lett. Edif. et Cur. T. XVII. 306, 307. See also curious Mem. on Tibet in T. XXVI. of same work.) In Japan, not only the regular priests practise physic, but the Jammabos or monks of the mountains, the latter resembling the Sanyasses and Yogees of the Hindus, and the Fakirs, Dervises, and Calendars of the Mahomedans. (Thunb. Trav. vol. III. 275. IV. 29.) In Tibet, as we learn from Tavernier, those of high rank wear the powdered excrements of the Dalai Lama, their incarnate high priest and god, in cases hung about their necks, as a preservative against all diseases. The Mongols intermix both his ordure and urine with their food, as powerful remedies for the cure of disorders, and the inferior Lamas, who vend the drug, obtain great profits by the commodity. (Tavern. T. II. 185.)—Among other nations in the north of Asia who employ priests for their physicians, are the Tchovaches, a Tartar tribe under the government of Russia: the priest is stiled a Jumasse, and each village has its Jumasse, and a medical idol for the cure of its distempers. (Gmelin. Voy. en Siberie.

T. I. 10.) To the same list may be added the Kalmuks, (Russia, vol. IV. 38,) the Samoyedes, (ib. vol. III. 28,) their priests are called Tadibs; the Votiaks, (Gmel. T. I. 33,) the Thellitich Tartars, of whom the priest-physicians are stiled Kamms, (ib. 136,) those Tartars who inhabit the banks of the rivers Kondoma, Massa, (ib. 142,) and Tchouline, (ib. 169,) the Buroets beyond the lake Baikal, (Tookes' View of Russ. Emp. vol. II. 284,) the Tongusian Tartars, (ib. 263, Russia, vol. III. 116,) their priests go under the name of Lamoutes; (Sauer's Narrat. of Billing's Exped. 48;) the Yakuti settled about the estuary of Olekma, (ib. 119,) the Tshutski who occupy the extreme east of Asia from the river Anadyr to East Cape. (ib. 326.)

After the nations of Asia, I ought perhaps to mention those of Austrasia, and Polynæsia. With these, it is probable, the English reader is better acquainted than with most uncivilised tribes, in consequence of the numerous voyages performed to them during the present reign, more especially those of the immortal Cook. Over the whole of these lately discovered tracts, the only physic is found in the hands of the priests: as in Otaheite, and the other Society Isles. Here the priesthood constitutes a numerous and powerful order, and the pontiff is often connected with the throne. Thus Māne Manne, one of the principal among them, during the visit of the missionaries, was king of Ulietea, though an exile, and Temarre, another high in the sacerdotal office, was of the blood-royal. (Missionary Voy. 345, 347, 348, 404.)

So thoroughly is physic found incorporated with religion in these islands, that some of their priests obtain a particular name in consequence of the connection. Thus in the Otaheitian dialect, the title of priest is *Takouva*, while the word for soreness, wound, or disease, is *mai* or *mamai*,

whence is formed *Tahoua-mai*, the ordinary phrase for him who is occupied in the treatment of disorders, and one that might with no impropriety be rendered in English, *Priest-Physician*. From the same association, no doubt it is, that the surgical operations of circumcision, or rather slitting the prepuce, in young males, and tattowing the skin in both sexes, are entrusted solely to the priesthood. The fees for these sacerdoto-surgical operations, are liberal presents of fowls, fish, cloth, and since the visits of Europeans, of nails and beads. (Forster Observ. made during Voy. round World. 494, note, 565, 567. Hawkesworth, vol. II. 231, 232.) Precisely the same state of medicine is observed in the Friendly as in the Society Isles. (Cook's First Voy. vol. II. 158, *et alibi*.)

Among the natives of New South Wales, and New Holland, the priest-physicians, as already noticed, are denominated *Car-rah-days*, by Turnbull written *Curradgies*. For the initiating the youth of these tribes in the privileges of manhood, a curious ceremony is practised, that of extracting one of the fore-teeth. The operation is always committed to the Curradgie, who performs it by means of a sharp bone, accompanying the act with many superstitious rites. (Collin's N. S. Wales, 381, 388. Turnbull's Voy. vol. II. 86.)

AFRICA.

The obligations of healing to the ancient hierarchy of Egypt will be presently detailed; at this moment, among all the Negro nations on the western and southern coasts of Africa, from the great desert, to the Cape of Good Hope, the sole physicians are the priests: as among the Issini, (Hist. Gen. des Voy. T. III. 484, 436, 437,) among the Mandingoes, (ib. 157, 214, 217,) among the people of Whidah, (ib. 392,) among those of the kingdom of Sestos on the Pepper Coast, (ib. 616,) among the natives of the

Gold Coast, (ib. T. IV. 145,) among those of the kingdom of Ardra on the Slave Coast, (ib. 395,) among those of Benin, (ib. 414,) among those of Loango, of Kakongo, and Angoy. These three last communities worship an extensive polytheism, which is served by a proportionate number of priests. Among their divinities are so many medical gods, that division of labour is perceived among them, some being invoked for diseases of the eyes, others for strength of limbs, &c. The deities thus supposed to preside over health, as well as the idols by which they are represented, are alike termed Mokissos, while their priests are stiled Gangas, or Engangas. Two divinities, Thiriko and Makemba, have for their functions to guard from all maladies the king and royal family. (ib. 603, *et seq.*) The great remedies are offerings to the Mokissos, or in other words, presents to the priesthood. The same trait of rude medicine is observed among the natives of the island Quantalla, situated at the mouth of the great river of Congo, or Zaire, (ib. 615,) and those of the kingdoms of Angola and Benguela. In the two last countries, as already mentioned, the priests are denominated Singhilli, or Chinghilli, a word signifying lords of the earth, and, in fact, the sacerdotal order here constitutes a powerful dynasty, governed by a supreme pontiff, who, like the Dalai Lama, is perpetually regenerated: (ib. T. V. 41, 44:) the name of their grand idol, to which vows for health are addressed, is Gongampemba. Medical practice is also exercised by the priesthood in Monomotapa, (ib. 226,) so likewise, among the Bulloms, Timmanees, Soosoos, Bagoes, the natives of the Foy country, and Kroo coast, the Mandingoes, as already said, and over the whole of what is called the Windward Coast, from Senegal to the Cape of Palma. (Winterb. Sierra Leon, vol. I. 259, 260.)

The following narrative, extracted from the last named intelligent writer, will serve as a specimen of the ideas enter-

tained among the Negroes concerning the origin and proper management of diseases:—

“When a person of consequence, as is related by Dr. Winterbottom, among the Bulloms and Timmanees, happens to be taken sick, he is immediately conveyed from his own residence to another town at some distance, to be farther from the effects of the witchcraft, which is supposed to have been practised upon him. If he does not soon recover in his new situation, a hut is built in the deepest recess of some impenetrable forest, whither he is carried, the place of his retreat being only known to his most confidential friends. The late king of Naimbanna, in his last illness, was removed from his own town, on the island of Robanna (an island at the mouth of Bunch river) to a small island a few miles distant. A semicircular piece of ground was cleared from the underwood, the larger trees being left standing; and the only avenue to it was defended by the most potent gree-grees that could be procured. A small hut about eight or ten feet square, and about six feet high, was formed of stakes driven into the ground, the sides and roof being composed of grass and flags, neatly woven like a basket, but not so close as to prevent the access of light; in the midst was left standing the stem of a young tree, lopped about five feet from the ground, and upon the top of which was placed a gree-gree*. The old king was laid upon mats spread on the ground, surrounded by his own family: on one side stood the physician (priest) who had in his hand a gree-gree of a very uncouth form, about four feet long, and ornamented with bells, and

* In ancient Greece, when a person fell sick, branches of Laurel, and of a species of Rhamnus, were fixed over the door-posts. The last plant was supposed to act as a defence against malign supernatural agency, whence its name of *Αλκιμαχες*. These were the gree-grees of primeval Europe.

pieces of iron, which he occasionally jingled with much self-complacency, making a most distracting noise. A blister was applied to the patient, and the medicines which I had taken with me, administered; but notwithstanding these, and the gree-grees used by his own physician, the king died soon after, much and deservedly lamented." What are called gree-grees in the above narrative, it may be remarked, are a species of Talisman or idol, universally in use among the whole negro nations, for all the purposes of a divinity. They are found to be composed indifferently of any material whatever, as pieces of cloth, wood, stone, metal, or the bones of animals, according to the fancy of the priest, or individual, and some of them are of a public, while most of them are of a private nature. These last are generally worn about the body, and it is pretended by the priests who sell them in great numbers to the people, particularly previous to military expeditions, that they can be so fashioned as to defend any part of the purchaser against the danger of wounds, casualties, and disease. Another name for the same class of emblems is feteesh, derived it is said from the Portuguese feticiera witchcraft, or feituaria a witch, words often extended in their meaning to signify any thing endowed with supernatural or miraculous power.—These feteeshes have passed over with the unhappy objects of the slave-trade to our West India Islands, where they are generally known under the name of Obi. So strong is their hold over the minds of the Negroes, that many have perished through mere terror of their potency. Hence they are strictly prohibited in our colonies. The various and strange materials out of which they are framed, are thus enumerated by the Assembly of Jamaica, viz. blood, feathers, parrots' beaks, dogs' teeth, alligators' teeth, broken bottles, graves' dirt, rum, egg-shells. (Laws of Jamaica, Act XCI. ch. 49.) The Obi men in our West India islands, among their other functions, also practise medicine. They are frequently found in possession of some very powerful remedies. (Edwards.)

To these instances of priestly medicine taken from Africa, I shall only add that of the Hottentots and Caffres. Among all the tribes of the former, who, in the time of Kolben, were partly Nomades, partly hunters and fishers, the office of physician is vested in those who exercise the sacerdotal functions, as among the Gunjemans, Kochaquas, ~~Sunna~~suquas, Odiquas, Chirigiquas, the greater and lesser Namaquas, the Attaquas, Koopmans, Hessaquas, Sonquas, Dunquas, Damquas, Gairos, Hontenequas, Chamtouters, Heykoms. (See Kolben Present State of G. Hope, vol. I. ch. 7, 8, 9, 10. Sparrm. Voy. vol. I. 209.) For a similar ascription of medical honours to the priests of the Caffres, see last named Voyager, vol. II. 35, 36.

AMERICA.

Among the whole Aborigines of America, from the north to the south, and from the east to the west, the only medicine known has been found in the hands of the priesthood. Some tribes, it is true, have no regular hierarchy, and in their stead employ Seers, or Soothsayers, while in others, individuals, like the Patriarchs, and Grecian chiefs of old, as they perform ordinary religious rites, so also practise those superstitious ceremonies reckoned of service in the treatment of diseases: and in fact these three sets of persons will be found to engross the whole business of physic, in all rude and half civilised communities *. In proof of medical skill

** Of this system, the remains, as already remarked, still continue visible in the South Sea islands. Not only does the supreme chief, or king usually preside as hierarch at the grand oblation of a human victim, but the inferior chieftains in their turn, often assume the offices of the priesthood, praying for their friends when sick, and celebrating in their behalf those idolatrous observances supposed to possess the force and efficacy of medicines. (Miss. Voy. 347, 348.)*

ascribed to them in this quarter of the world, the following instances will prove sufficient. Thus we find the priests, or those who act for priests, in possession of our art among the Indian tribes stiled Knisteneaux; (Mackenzie Voy. C. CL. CIL. 332;) among the Esquimaux; (Cartwright Journ. of sixteen years residence on coast of Labrador, vol. I. 263;) among the Cherokees, Muscogulges, Siminoles, Chacawas, Chactaws, and confederate tribes of Creeks; (Bartrams' Trav. 495;) among the Hurons, where the priests are stiled Saitotkatta; (Lafitau Mœurs. des Sauv. T. I. 371;) among the Iroquois, formerly the five, now the six nations of the English; two sets of priests administer medicine to these extensive tribes, the Agotsinnachen, and Agotkon; (ib. 373;) among the old Indians of Virginia, where the priests are denominated Werrovances; (ib. 292;) among those of Nova Scotia where they are named Autmoins; (Charl. Nouv. Fr. T. III. 368. Rob. Hist. of Amer. vol. II. 292;) among the Natchez; (Charl. Nouv. Fr. T. III. 426. Lettr. Edif. et Cur. T. VII. 27;) among the Illinois; (ib. T. VI. 331;) among the Mascoutans or Mascoutins; (ib. 334. Charl. Nouv. Fr. T. II. 267;) among the Outaouis; (ib. T. I. 392;) among the ancient Floridians, where as already remarked the priests are named Ionas; (ib. 28. Lafit. Mœurs. des Sauv. T. I. 292;) and among the Carribs where they are stiled Piayes and Boyes; among the Moxes where they are named Tcharangui; (Charl. Nouv. Fr. T. II. 267;) among the old Brazilians as well as people of Hispaniola, and Cumana, where they pass respectively under the appellations of Pages, (ib. 292,) Buhitos, (Rob. Hist. of Amer. vol. II. 145,) and Piaches; (Hist. Gen. des Voy. T. XIII. 13;) among the Aranajoux on the coast of Cayenne; (Lettr. Edif. et Cur. T. VII. 316;) among the Carib tribes the Accawaus, Worrows, and Arrowauks, on the coast of Guiana; (Bancroft. Hist. of Guiana, 266;) among the Chiriguanes, a tribe in the mountains fifty leagues to the east of Tarija;

(*Lettr. Edif. et Cur.* T. VIII. 333;) among the Chequites, the inhabitants of a large country lying betwixt 16° S. lat. and the tropic of Capricorn, bounded on the west by the province of St. Croix de la Sierra, and on the east by the river of Paraguay; the Caziques are at once both priests and princes; (*ib.* 339, 340;) among the Indians of the vast country situated on the banks of the river of Amazons when first visited by the Spanish fathers Christopher d'Acuna, and Andrew d'Artieda, in the year 1639, &c. &c.—It ought not to be omitted here that almost all the Indian tribes who inhabit the northern regions of America worship a species of domestic idol called Manitou, exactly similar to the gree-grees, and feteeshes of the Africans. These Manitous or Manittos, are generally small pieces of wood carved into some resemblance of the human figure; at other times they consist of bits of metal, stone, or any substance whatever that the fancy of individuals may have consecrated, or exalted to the rank of divinity. One of their great uses is to afford by their reputed power, relief during diseases, and whatever cure may be performed by the priest-physician is generally imputed to their influence. Almost every individual Indian has his own Manitou.—To the above list of rude communities who employ their priests for physicians, may be added the kindred tribes of Greenland; for innumerable instances, see Crantz' *Hist. of Greenland*, particularly Book III. ch. 5.

EUROPE.

The primeval alliance of physic with the altar is no less perceptible in Europe, than in other regions. Of this combination among the Greeks the proofs will presently be given, as also among the Romans.—Among the great northern nations, the parent stems of Goths and Celts, the same connection will be found to have prevailed. Thus among the latter the Druids or sacerdotal order were the sole physicians. (*Plin. Hist. Nat. L. XVI. c. 44. L. XXX. c. 1.*) Among the

Goths there appears never to have sprung up any regular hierarchy, but their chiefs, like the heroes of Greece often exercised various functions of the priesthood, and with others, that of curing diseases. Their remedies were amulets formed of runes or certain combinations of the Runic letters. In the third part of the Edda, or bible of the Goths, what is stiled the Runic chapter, and in Wormius' *Medicina Septentrionalis*, will be found abundant recipes of this sort.—As already stated the women were for the most part surgeons to these tribes, not unfrequently the priestesses, as among the Cimbri, and hence many superstitious rites were likely to mingle with their external applications. Mr. Scott in his *Lay of the Last Minstrel*, describing the cure of William of Deloraine, has skilfully preserved this double trait of Gothic manners. The lady of Branksome, besides skill in surgery appertaining to her as the heroine of a chivalrous age, possessed influence over the native spirits, like Chryses over Apollo in the first Iliad, and employed it in closing the wounds of her retainer. (*Lay of Last Minst.* c. III. and note.) Were other examples wanting to show the ascription of medical knowledge to their priests or soothsayers, among the rude tribes of Europe, to the above list might be added the Lithuanian Fins, (*Tooke's Russ.* vol. I. 373,) and Laplanders. (*Scheffer's Hist. of Lapl.* 57.)

(2) I know not if this very obvious inference of superstition requires illustration. The history of all rude, or half civilised, communities affords abundant examples. Thus when the Scythians in one of their incursions into Asia, plundered the temple of the Venus Urania, and Alyattes king of Lydia, father of Cræsus, burned by accident that of the Assesian Minerva, both offenders were punished with a severe disease sent by the respective goddesses. (*Herod. L. I. c. 105, c. 19.*) Among the Mongols the same deities are believed to regulate the weather, and the state and growth of distempers, (*Hist.*

Gen. des Voy. T. VI. 586. Tooke's Russ. vol. IV. 253,) while in the Marianne Islands, to the latter function is added that of deciding the fate of fisheries. (Hist. Gen. des Voy. T. X. 372.) Among the Japanese, the idol Abuto directs alike the course of the winds, and that of diseases, and is therefore equally invoked by mariners and the sick. (ib. 499.) In Tonquin the same celestial personage is at once god of health and of the sea. (Lettr. Edif. et Cur. T. XV. 310.) In Arakan all diseases are imputed to Chor-baos god of the four winds. His priests are named Rawlins, and they of course are the physicians of the country. (Hist. Gen. des Voy. T. IX. 67, 68.) The female deity Kallafootonga, worshipped in the Friendly Islands, is invested with the exclusive privilege not only of producing thunder, lightning, tempests, with all changes of weather, but likewise of occasioning every species of distemper. (Cook's Voy. vol. I. 403, 404. Miss. Voy. 3.) A similar double power is imputed to the divinities of the Society Isles. (Turnb. Voy. vol. II. 389.)

Precisely the same ideas are observed to prevail among the Hordes of Africa. Thus on the coast of Loango the idol Maramba is believed the common source of success or miscarriage in hunting and fishing, and of all bodily disorders. (Hist. Gen. des Voy. T. IV. 578.) Among the Hottentot tribes the malignant deity Tuquoa is supposed to produce diseases, thunder, lightning, the destruction of the fruits of the earth, defeat in battle, the attacks of wild beasts, and every description of disaster. (Sparm. Voy. V. I. 208, Kolben Cape of G. Hope, v. I. 104, 105, 134.) In the belief of the negroes of the western coast, the feteeshes are no less capable of inflicting sickness than other calamities. (Dalzel, Hist. of Dahomy. 163.)

The mythologies of Europe abound with deities of the same complicated characters. The two Diræ, daughters of night,

and twin sisters of the infernal Megæra, are continually stationed beside the throne of Jupiter, ready, at his behest, to punish the wicked with every species of disaster, and among the rest, diseases. (*Æn.* L. xii. 845 *.)—Every sudden death among the Greeks, if of a male, was imputed to the anger of Apollo, if of a female, to that of Diana. *Il.* *Ω.* v. 757, *Odyss.* *ο.* v. 406, *Il.* *z.* v. 205, *ib.* *τ.* v. 59. Certain persons at Rome having ridiculed some statues of Bacchus that had been transported thither from Greece, were instantly seized, by order of the god, with a severe affection of the phallus. (Schol. in *Acharnens.* of Aristoph. Act. II. sc. 1.) Odin who was at once the Jupiter Tonans and Pluvius of the Goths, often showed his power by dispensing diseases. (Mall. *Introd. to Hist. of Denm.* v. I. 71.) In the obscure mythology of Ossian, almost the only divinities are the shades of heroes, and spirits of the storm; both appear occasionally the authors of distempers. “Oscar is like a beam of the sky; he turns round, and the people fall. His hand is like the arm of a ghost, when it stretches it from a cloud; the rest of his thin form is unseen: *but the people die in the vale.*” (*War of Cares.*) The spirit of Loda who was however a Gothic, not Celtic divinity, thus addresses Fingal: “Dost thou force me from my place replied the hollow voice? The people bend before me. I turn the battle in the field of the valiant. I look on the nations, and they vanish; *my nostrils pour the blast of death.*” It is afterwards added, “Fly to thy land, replied

* *Dicuntur geminæ pestes, cognomine Diræ;
Quas et tartaream nox intempesta Megæram,
Uno eodemque tulit partu: paribusque revinxit
Serpentum spiris, ventosasque addidit alas.
Hæ Jovis ad solium, sævique in limine regis
Apparent, acuuntque metum mortalibus ægris:
Sic quando lethum horrificum morbosque Deum rex
Molitur, meritis aut bello territat urbes.*

the form, receive the winds and fly. The blasts are in the hollow of my hand; the course of the storm is mine." Carricthura. Among the Laplanders the grand deity is Tiermes or Aijeke, the first signifying whatever is tremendous by its noise, the second, grand-father, or great-grand-father. His attributes are thunder, lightning, the regulation of weather, the health, life, and death, of men. His arms are a bow, stiled Aijeke dauge, and a mallet, Aijeke wetchera. He prevents the inferior malignant spirits from impeding his votaries in the pursuits of hunting, fowling, fishing. (Scheff. Hist. of Lapl. 37, et seq.) By the Esthonians, Lieflanders, and Letonians, the origin of distempers is imputed to the gods of their woods, rivers, and lakes, and to pacify these beings the usual offering is a little silver scraped from the surface of a ruble, or some of the breast ornaments of their women. (Tooke's View of Russ. Emp. vol. I. 512, 513.) After the introduction of christianity into Livonia by the monk Diederick of Thoreyda in the thirteenth century, the same power was ascribed to the strangers' god, and the Missionaries taking advantage of this belief, are said to have produced by it a number of converts. (ib. 543.) This is not the only instance where the like plan has been followed by the planters of the gospel; (See Charl. Nouv. Fran. T. I. 393. II. 267;) and the same artifice has been often resorted to by the propagandists of islamism. The remedies of these last are generally pieces of the Koran transcribed, worn like an amulet round the neck, or even swallowed by the patient. (See Hist. Gen. des Voy. T. VII. 230. Gmel. Voy. in Siber. T. I. 33. Horneman's, Trav. 73.)—Our domestic demons the Fairies, whose origin has been traced to the Peris of Iran, are believed in popular superstition, alike capable to cure or inflict diseases. (See Scott's Minstrelsy, of Scott. Bord. vol. II. 205, et seq.) Part of the indictment of Alison Pearson who was executed for witchcraft, in the year 1586, consisted in the accusation that she was intimately

acquainted with the remedies, or Mat. Med. of these generally benevolent beings.

But of all rude communities the firmest alliance betwixt religion and our art seems that established among the aboriginal hordes of America. These tribes appear exactly in that state of barbarism when this connection is drawn the closest. The fact is attested by a thousand instances. Thus in the language of the Creeks and Cherokees the same word that signifies conjuring, fascinating, denotes also a *medicine*. These savages likewise, in their hunting parties, are accustomed to chew a particular fruit as a charm to allure the deer, this fruit is denominated the *Physic* nut. (Bastram's Trav. 41.) What are termed *Besons* among the northern tribes, and which are used as conjurations for the attainment of every desire whatever, though for obvious reasons generally resorted to for the purpose of procuring success in the chase, are neither more nor less than so many medicinal compositions, consisting of various herbs, roots, and seeds, mixed together, and administered like a drug to those who expect to reap benefit from their power. Some of them are to be taken all at once, and frequently operate as furious and dangerous emetics; others are gentler in their action, and are to be swallowed in lesser, but repeated doses. These *Besons*, so powerful in their supposed effects, are often purchased, as may be readily conceived, at an immense price. (Hist. of Mission of United Brethren (*Moravian*) among Ind. of N. Amer. 77.) To exactly the same principle may be referred the medico-religious ceremony practised among the great tribe of the Knisteneaux, of opening the Medicine Bag. "In cases of tedious illness," says the traveller Mackenzie, "in order to settle disputes in the tribe, before undertaking hunting or war expeditions, as a sacred engagement or oath, the Knisteneaux Indians celebrate the solemn festival of opening the Medicine Bag, and smoking from the sacred

stem. On this occasion they always invoke the divinity, whom they stile the master of life. The contents of the bag are a small carved image about eight inches long, highly revered; the war-cap, to which is suspended a quill or feather for every enemy the proprietor has slain in battle; the pipe, or sacred stem, with a piece of Brazil tobacco, and various roots and simples of high estimation for medicinal power. The master of the house acts as priest, and has an assistant stiled Mechiniwais, who is generally the person he most esteems. (Mackenzie's Voy. C. CL. CIL.)—Innumerable other examples indicative of similar superstition are to be derived from America. Among the Creeks, Cherokees, Muscogulges, Siminoles, Chicasaws, Chactaws, the same deities that rule the elements, that produce rain, thunder, lightning, success or defeat in battle, are also the authors of all diseases. (Bartr. Trav. 495.) In the hands of their Manitous, according to Indian belief, all over the northern part of the continent, are placed equal powers of regulating the fate of battles, and the rise and issue of distempers; (Lettr. Cur. et Edif. T. VI. 331. Hist. of Miss. of Unit. Brethr. among Ind. of N. Amer. 39;) and a similar double power was attributed by the Peruvians to their god Virichoca, and to the Sun. (Acosta Hist. of Ind. 380. 4to edit. Lond. 1604.) A juggler (*Jongleur*) of the Illinois having lost his father by disease, and seeing a young neophyte with her beads in her hands pass his cabin, was with difficulty prevented from shooting her dead on the spot, under the conviction that it was to the anger of the stranger god he owed his calamity. (Lettr. Edif. et Cur. T. VI. 332.) Among the Mascoutins an endemic disease having cut off great numbers, notwithstanding every ceremony and sacrifice to their own divinities, vast crowds surrounded the French fort, beseeching the missionaries to interpose in their behalf with the God of the Christians, and confessing his superior power to their own. (ib. 336.) In Guiana all bodily dis-

orders, with every sort of disaster are alike supposed to flow from the vengeance of their Yowahoës, or malignant spirits whom they worship. (Bancr. Hist. of Guiana, 309, te seq.)

(3) To this source may undoubtedly be traced those numberless superstitious remedies that have so long infested our art, and which all the philosophy of modern times has hardly yet been able to banish from its practice. For their enumeration, see Le Clerc Hist. de la Med. P. I. Liv. I. ch. 12. As two of the principal among them may be mentioned, the *Enaidai* of the Greeks, and *Incantamenta* of the Latins, so termed because the words of the spell were chaunted or sung. From carmen, on the same principle is derived the English and French *charm*, as well as the class of medicines in the Mat. Med. denominated *Carminatives*, which as they often expel flatulence with surprising quickness in consequence of resolving transient spasm of the stomach or intestines, are thus thought to operate by some magical power. Under the same list are included by Le Clerc the Roman *Proëbia* or *Proëbra*, and *Amuleta*; and the Greek *Phylacteria*, *Amynteria*, *Alexiteria*, *Alexipharmaca*, *Apotropœa*, designations all of them importing certain preternatural contrivances invested with the superstitious power either of warding off disease, or of removing it after it has occurred.

With respect to the medico-religious ceremonies in use among those rude communities with which the researches of voyagers and travellers, in modern times, have brought us acquainted, they will be found almost endless. Still however they may be perceived to take their colour and character from the peculiarities of the nation among whom they are practised, it being reasonable to suppose that the same vows, prayers, and sacrifices would be resorted to when health was the boon sought of heaven, as when any other blessing formed

the object of supplication. For examples of such superstitions, among the aboriginal tribes of America, as among those who formerly resided near Quebec; (See *Charl. Nouv. Fr. T. I.* 392;) among the Outaouis; (*ib.* 394, 395;) among the great tribe of the Iroquois. The ceremony of blessing the herbs and roots with which the sick and wounded are to be cured, during their war expeditions, is thus described by Charlevoix. "Toute la Bourgade étant assemblée, un de ces Charlatans (their priests or Jongleurs) declare qu'il va communiquer aux racines et aux plantes, dont il a fait bonne provision, la vertu du guerir toutes sortes des playes, et meme a rendre la vie aux morts. Aussitot il se met à chanter; d'autres jongleurs lui repondent, et l'on suppose que pendant le concert, qui ne vous paroitrait pas fort melodieux, et qui est accompagné de beaucoup des grimaces de la part des acteurs, la vertue medicinale se repand sur les drogues. Le principal jongleur les éprouve ensuite; il commence par se faire saigner les lévnes; il y applique son remede: le sang, que l'imposteur a soin de sucer adroitment, cesse de couler, et on crie, miracle! Apres cela il prend un animal mort, il laisse aux assistans tout le loisir de bien s'assurer q'il est sans vie, puis par le moyen d'une canule, q'il lui a insérée sous la queue, il la fait remuer, en lui soufflant les herbes dans la gueule, et les cris d'admiration redoublent. Enfin toute la troupe de jongleurs fait le tour des Cabannes en chantant la vertu des remedes," (*Nouv. Fr. T. III.* 219, 220.) For similar superstitions connected with the curing of diseases among the Natchez, see *Lettr. Edif. et Cur. T. VII.* 27, 28. Part of the ceremony among the priests of this tribe is to make an incision into the affected place with a flint, then suck the blood, and spit it out on a platter, taking care to discharge along with it a bit of wood, straw or copper provided for the purpose, but which they pretend to have been extracted from the wound, and to have been the cause of the disorder. Exactly the same trick, as we learn from Charlevoix is practised by the jongleurs of Canada, by those

of the Illinois, (*Lettr. Edif. et Cur. T. VI. 331,*) among the Peli or Payes of Guiana, (*Bancr. Hist. of Guiana, 313,*) by the Car-rah-days of New South Wales, (*Collins' N. S. Wales, 366,*) and by the priest-physicians of the Hottentots. (*Sparm. Voy. vol. I. 209.*)

The negro tribes of Africa furnish innumerable instances of religious ceremonies instituted for the purposes of healing, as the Issini; (*Hist. Gen. des Voy. T. III. 434, 436, 437;*) the Mandingoes; (*ib. 157;*) the people of Kayor to the north of Cape Verd, have no other remedy for the bite of a monstrous serpent with which they are infested than ceremonies in honour of their gree-grees. (*id. T. II. 474.*) For medico-religious rites on the Gold Coast, (*See id. T. IV. 145, 149, 150, 171,*) for those of Kakongo, (*ib. 583,*) for those of Whydah, (*ib. 299,*) for those of Ardra, (*ib. 395,*) for those of Benin, (*ib. 414,*) &c. &c.

Those voyagers and travellers who have visited the uncultivated tribes of Asia, record many instances of the same superstitious medicine: as among the people of the Maldives; (*Hist. Gen. des Voy. T. VIII. 251;*) those of Tonquin; (*ib. T. IX. 118, 119. Lettr. Edif. et Cur. T. XVI. 206;*) those of Little Bucharra, where the priests flourish a sharp knife round the cheeks of the patient, and are supposed thereby to cut up the roots of the disease; (*ib. T. VII. 230;*) among the Tartar tribe Tchouvaches; (*Gmel. Voy. en Sibér. T. I. 10, 11;*) among another tribe whom the same author met at Selenginsk on the frontiers of Russia; (*ib. 239;*) among the Tongusians; (*ib. 263;*) among the natives of the Nicobar Islands; (*paper by Nic. Fontana Esq. in Asiat. Res. vol. III;*) among those of Pegu; (*Hist. Gen. des Voy. T. IX. 568;*) among the Tskutski inhabiting the extreme north-east of Asia; (*Sauer's Narr. of Billing's Exped. 254, 325, 326;*) in Hindustan both ancient and modern, innumerable religious

ceremonies were and are in use for the recovery of health, (Hist. Gen. des Voy. T. IX. 521, 555,) and not a few it is well known, in the temples of all catholic regions.

With regard to medical superstitions in ancient Europe, many might be enumerated; as the *Ασκληπιος* and *Μεγιστηρα*, celebrated by the Greeks in honour of Esculapius, (Pott. Grec. Ant. vol. I. 336,) with a thousand others. Several among the Romans, I shall have occasion afterwards to mention. Ossian notices some as prevalent among our Celtic ancestors. In the list of gifts proffered to an invading enemy we find "An hundred girdles to bind high-bosomed maids; the friends of the births of heroes, and the cure of the sons of toil." (Battle of Lora.) Macpherson asserts that these girdles were consecrated by the Druids, and their use always accompanied by certain incantations. (See note at passage.) The same order of priests employed many medicines, among the most distinguished of which was the Mistletoe, (*Viscum Album*,) but its effects in diseases were supposed rather to arise from the peculiar ceremonies that accompanied its separation from the sacred oak, than any genuine medicinal efficacy. (Plin. Hist. Natur. L. XXIV. c. 4.) The Goths were no less addicted than the Celts to the same species of remedies, of which numerous examples might be cited if necessary.—In casting a general glance over these medico-religious observances of rude tribes, many of them appear not a little ridiculous. Thus in the Friendly Islands, in order to prevent or cure diseases, a finger is cut off, and hardly an individual is to be found, as we learn from Cook, whose hands were not observed to have been mutilated in this manner. (Cook's Voy. vol. I. 403. Mission. Voy. to S. Pacif. 278.) In the Sandwich Islands a tooth is regularly knocked out for the same purposes, and this practice is so frequent that few of the natives were met with who possessed their complete number. (Cook's Voy. vol. III. 162.) Among the people of the

Philippines and Tonquin, little bells are continually rung in the ear of the patient and his attendants, and in the latter region, to these is often added the sound of trumpets and cymbals. (*Hist. Gen. des Voy. T. IX. 259, note ib. 118.*) The Laplanders beat to the sick their magic drums, (*Scheff. Hist. of Lapl. 38, 57,*) a practice also pursued by the Tartars on the banks of the Tchoulime, (*Gmel. Voy. en Siber. T. I. 169,*) and among the Yakuti or Socha at the estuary of Olekma, (*Sauer's Narr. of Bill. Exped. 119, 120.*) Among some nations the chief ceremony is to blow frequently on the patient, as in Arakan; (*Hist. Gen. des Voy. T. IX. 67, 68;*) in Greenland, where the operation is performed by the Angekoks; (*Crantz. Hist. of Greenl. 214;*) among the Knisteneaux Indians, (*Mackenzie Voy. 148,*) and the S. American tribe stiled Chiriguans. (*Lettr. Edif. et Cur. T. VIII. 39.*) The observances practised for healing an ulcer of a chief's son on the banks of Columbia river, as witnessed by Mackenzie, consisted besides blowing upon him, of the priest-physician whistling beside him, pressing his extended fingers with all his strength on his stomach, then putting them doubled into his mouth, and lastly squirting water from his mouth into his patient's face. (*l. c. 332.*)—When Captain Cartwright lay sick in his tent on the coast of Labrador at a distance from his own people, and surrounded only by the Esquimaux, solemn ceremonies, he relates, were instituted, during the night, by these Indians, for his recovery. Part of them consisted of such hideous yells as were never uttered by human beings, and which completely prevented sleep. (*Cartwright's Journ. of sixteen years residence on the coast of Labrador, vol. I. 242.*) The following mode of curing the headach he saw practised by his friend Attuiock, one of the priests of the tribe. The patient was the practitioner's own wife, and when Cartwright entered the room, he found her laid on the floor with her hands by her sides; Attuiock sat so far back as to have her head opposite to his knees. He

had placed a loose strap under her head, which came over the forehead. In this strap he put the end of a strong stick which he held in his hands across his knees. With great gravity and in a low doleful cadence, he sung a song, frequently laying a strong emphasis on some particular word, which, says the narrator, I did not understand; at the same time by the help of a lever, he raised her head as high as the length of her neck would permit, and then let it bump down again upon the floor, keeping time to the tune. As I supposed it was a religious rite, (he being a priest,) I silently observed what was going forward. At length the old gentleman, fixing his eyes on me, pointed to his wife with an important look, and said "It is very good," "That may be, said I, but pray what is it good for," "My wife has got the headach, answered the priest." (ib. 263.) A similar plan of treating chiefly the same disease, as we learn from Crantz, is pursued among the kindred tribes of Greenland. (Crantz. Hist. of Greenl. vol. I. 214.)

Some of the medical ceremonies of the Peii or priests of Guiana, are thus described by Bancroft. "Of their cures, he says, the principal instrument is a large calabash, freed from the seeds, and internal spongy substance, in which there is a variety of small circular, as well as long narrow holes, made in different parts of the shell, which is likewise painted with various colours. Within the shell are put several small white stones, which are a species of agates, and on this account are held in superstitious veneration by the laity among the Indians, who durst not even touch them; to these are added a great number of small pea-like seeds, variegated with black and yellow spots, which, as is commonly believed by the Indians, will occasion the teeth to fall out, if chewed. A long round piece of wood is then run through the middle of the shell, from end to end, by means of two holes properly made, so that each end of the stick extends about a

foot beyond the calabash; the largest end affords a handle, and the other is ornamented with a string of beautiful feathers, of various colours, wound on the stick in spiral circles. With this magic shell the Peii begins his nocturnal exorcism, about 10 o'clock in the evening, having first darkened the room, and made every one quit it except his patient; he then rattles his shell by turning slowly in a circular direction, at the same time singing a supplication to the Yowahoo, which, as well as the motion of the shell, is incessantly repeated until midnight, when the Peii pretends to have an interview with the Yowahoo, and at the same time two apparently distinct voices may be always overheard, by any person who has the curiosity to listen, unless it happens to rain at the time, when the Peii immediately postpones his incantation to the next evening. What passes at these interviews is unintelligible even to the Indian laity themselves; but the Peii makes a report comfortable to his conjectures concerning the event of his patient's disorder, though usually in an ambiguous or doubtful style." (Bancr. Hist. of Guian. from 309 to 314.)

(4) This progress from superstitious to real remedies it is easy to trace in most of the sacred communities of nations, not only in the great colleges of Egypt, Iran, Hindustan, and the Celtic countries, but also in the various inferior priest-hoods formerly enumerated. Regarding these last, among a multitude of examples that might be given, for the attainments in rational medicine, by the Jongleurs of Canada, (see Charlev. Nouv. Fr. T. III. 364, 365, 366, 367, 368, 369,) by the Butios or priests of St. Domingo, (Hist. Gen. des Voy. T. XII. 225, 226,) by the Piayes or priests of Cumana, (id. T. XIII. 13,) by the angekoks of Greenland (Crantz. Hist. of Greenl. vol. I. 213,) by the Tahouva-mai or priest-physicians of the Society Isles, (Forst. Observ. during Voy. round World, 495 to p. 500 inclusive,) by the Peiis of Guiana, and for the deadly poisons with which they are acquainted. (Bancr. Hist. of

Guian. 287, 315.) Relative to the same proficiency, though in a much higher degree, among the learned hierarchies of Egypt, Iran, and Hindustan, the most ample details will be given in future. As for the Greeks, the foundation of the like progress was evidently laid during the present era; the proofs however become more conspicuous, in a later age. Thus the two earliest seminaries of physic known to the Grecian world, and of course to Europe, were those of Cos and Cnidus, in both which the pupils and teachers were alike the ministers and descendants of Esculapius, and in both the whole art was learned by inspecting the multitudes of sick who resorted for aid to the divinity. It was in these temples that the useful practice began of recording the cases of patients, the history of the different diseases being carefully engraved on tables of brass or stone, together with the remedies employed, and the effects they produced. No practice could be more conducive to the advancement of our art, and it is said that Hippocrates who was of the Coan school, copied many of the observations thus collected into his own works. It was even the calumny of antiquity, that in order to conceal his thefts from the Cnidian records, he set fire to the fane of Esculapius built in that peninsula. The two other celebrated schools of physic that flourished among the Greeks, during the same early period those of Crotona in Italy, and Cyrene in Africa, may in like manner be traced to a priestly origin. The first was established by Pythagoras, and the founder appears to have introduced into it, not only all the medicine he had learned from the hierarchy of Egypt, but even the modes of study, and discipline, to which he had been accustomed in what may be termed his own alma mater of Heliopolis. A similar connection, though with less certainty, may be said to have subsisted betwixt the hierarchy on the banks of the Nile, and the college of Cyrene. (See Herod. L. IV. c. 186.)

To this natural progress of sacerdotal physic from mere

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religious observances to actually useful medicines, an exception, not unworthy notice, may be observed to occur in the early annals of the Romans, no remedy of real efficacy, having ever been added, so far as I have been able to ascertain, to the stores of our art, by any among the sacred colleges of that people.

That they dealt largely however in the first modes of cure resorted to by the priesthood, medico-superstitious rites, the most complete evidence exists. Thus during the primary ages of the republic, plagues as they are stiled by Livy, (probably epidemics occasioned by the undrained marshes scattered around the site of the ancient city,) were of frequent occurrence, and the sole remedies we find employed against them were such as religion only is known to afford; on one occasion, prayers, offerings, and general supplications in the temples; (Liv. L. III. c. 6, 7;) on another, after the Sibylline books had been consulted by their keepers the Duumvirs, the new and public ceremony of the Lectisternium *, to which were joined the same rite in private, universal feasting throughout the city, even amongst the bitterest foes, the suspension of quarrels and law-suits, and the liberation of prisoners from

* *The Lectisternium consisted in solemnly placing the images of the great gods, and goddesses, as, Apollo, Latona, and Diana, Hercules, Mercury, and Neptune, on superb couches, and setting wine and victuals before them. (Liv. L. V. c. 13.) It is not unamusing to observe the anthropomorphism of nations. Our Gothic ancestors represented their deities sitting round a table in the hall of Odin, quaffing beer and metheglin, and feasting on the inexhaustible flesh of the boar Sæhrimner; the Hindus paint their divinities squat on their hams, the posture preferred by the natives of that part of the world; the Romans deposited theirs on sophas, the position they themselves delighted in at their meals and entertainments.*

their bonds; (id. L. v. c. 13;) on a third, after the Lectisternium had failed, dramatic exhibitions in honour of the gods *; and finally as a last resort, the driving of a nail into the wall of the capitol; (id. L. VII. c. 2, 3 †;) on a fourth, after another reference to the Sibylline writings by the Decemvirs, a repetition of the Lectisternium. (ib. c. 27.) Even so late

** Livy dates from this period the introduction of theatrical entertainments at Rome, and he further tells us that as his countrymen, at this time, had no actors of their own, they were obliged to obtain them from Tuscany. It is curious to consider that the important amusement of the drama, derived from the Romans to so many nations, should at first, among that people, have been nothing more than a mere medico-religious rite.*

† The historian relates that this ceremony, which like most of their other rites, was derived from the Tuscans, had proved completely successful, on a former occasion, in arresting one of the plagues of the city. In order to render the act more solemn, it was always performed by a Dictator created on purpose, no doubt in memory of their ancient kings who united in their own persons the supreme honours both of throne and altar. In Egypt, the plague at present, is observed uniformly to cease or moderate about the time of the festival of St. John. Every good Christian of the Greek church is thoroughly persuaded that this desirable event is solely attributable to the benign influence of the saint. The reader has seen that in these medical emergencies at Rome, the Sibylline books were always consulted. Did these writings contain nothing but mere religious rites, or did they comprehend likewise various useful prescriptions in physic, like the other sacred codes of antiquity, those of the Egyptian priesthood, the Magi, and the Brahmins? This is a question that cannot now be answered, but the antiquary in religion and medicine will alike lament the useless destruction of these curious volumes by the christian bigotry of Stilicho. To

as the end of the 6th and beginning of the 7th century of Rome, such superstitious remedies prevailed, and there is reason to believe were common among the people. Some curious instances are afforded by the elder Cato, who might properly enough be stiled the earliest writer in medicine among the Romans. That severe Censor, as well as opposer and persecutor of every thing Grecian, and among others of rational or Grecian physic, dabbled frequently, as appears from his writings, in the healing both of men and cattle, but the only remedies prescribed by him, were entirely of a superstitious nature, absurd ceremonies, and foolish incantations, such as occur only in the rudest state of priestly physic. As examples he gravely tells us, that after the previous observance of some ridiculous mummary, in order to cure all fractures; and dislocations, the practitioner has only to repeat the following charm, *motas, vœta, daries, dardaries, astataries, disunapiter*, or failing that, *huat, hanat, huat, ista, pista, sista, domiabo, damnaustra, et luxato*, or if he choose rather, *huat, haut, haut, ista, sis, tar, sis, ardannabon, dumnaustra*. (Cato de re Rust. 160.) We find also the most absurd dietetical regulations scattered over the same work.—For this total defect of medical knowledge among the Romans, at so late a period, it

the above notices, it may be added, that on another occasion, the native deities of Rome not proving sufficient to remove the plague, a solemn deputation was despatched to the temple of Æsculapius at Epidaurus, in order to implore the aid of the god. The legend bears that the divinity himself, under the form of a harmless serpent, embarked on board the vessel of the ambassadors, and landed with them on an island in the Tiber, where a superb fane was erected to his honour. The priests of this temple, we know for certain, afforded real medical advice to the Romans, for inscriptions containing several of their cures, as well as medicines, have been collected by the diligence of antiquaries, see Le Clerc Hist. de la Med. Part I. Liv. I. ch. 20.

is difficult to account satisfactorily *. Constantly engaged in warfare, the practice of surgery must have been at all times necessary, and this at least, it is reasonable to believe, could hardly fail of receiving among them, more or less of improvement. Yet not a single article of intelligence concerning it has been handed down, a fact that might almost induce the belief that the backwardness of physic at Rome was rather apparent than real, and that our present opinions on the subject are founded less on the actual condition of our art, than a defect of due materials for its history. This scantiness of medical record may perhaps, in part, be imputed to the factitious state of society introduced at Rome in consequence of her early and extensive conquests. Of this circumstance the natural effect was to fill the city with foreigners, partly prisoners taken in war, partly persons who resorted thither, for the sake of profit or preferment. As both classes of strangers were more polished than the Romans themselves, they would necessarily engross almost all occupations whether mechanical or liberal, and as by the custom of antiquity every captive was reduced to a servile condition, numerous arts came thus to be vested in the hands of slaves. It was only by degrees, likewise, that the Romans attained sufficient refinement to relish the improvements of the Greeks, and their natural rudeness was further fostered by their contempt of the vanquished, and their exclusive devotion to the pursuits of war, and policy. Medicine it is well known, was in the list of occupations thus degraded, for whatever may be said to the contrary, it is an undoubted fact, that for many ages of Rome it was entirely exercised by bondmen, or by persons who had once been in

* *More than a hundred years previous to the age of Cato a Greek practitioner of the name of Archagathus had been invited to Rome, but the hatred of the citizens to his cautery and his knife, after first bestowing on him the title of Carnifex, or hangman, at last fairly banished him the city. (Plin. L. xxix. c. 1.)*

the situation of bondmen*. Concerning an art placed in such a situation, it is not likely that much curiosity would be excited. Its early memorials, or antiquities would be readily overlooked, and no Roman writer would be found sufficiently interested in the subject either to collect them together, or transmit them to posterity. In after periods of Rome however, both our art and its professors came to be more duly appreciated. During the time of the later Emperors indeed, the heads of our profession are observed to have enjoyed a much higher degree of consideration than they ever attained in any other age or country. Thus in the legal distribution of ranks assigned by Constantine to the different officers of state and nobility, the *Comites Archiatrorum* are found to stand in the second order, so as to have ranked with the Governors of provinces, the Counts, Dukes and Vicars of the Empire. Nor was the income allotted them disproportioned to this high dignity. The annual stipend assigned was 250,000 sesterces, a sum nearly equal in value to 10,000*l.* sterling, of our present money.

In the course of this and the preceding notes, it is hoped, sufficient evidence has been adduced, to evince the reality of connection stated to subsist, during remote periods, betwixt religion and our art. At the same time, it is not meant to be asserted that in these ages no discovery in physic could possibly be accomplished except by such as boasted the sacerdotal character. That would be an assertion alike contrary to truth and probability. During infant stages of society, each man is known to be his own artificer, and on a similar principle, will be no less disposed to act as his own physician, and surgeon. That by such a number of experimentalists, some improvements should have been effected,

* See Middleton's two *Diss. on Condition of Physicians at Rome*, in his *Miscellan. Works*, vol. IV. p. 179, 207.

some additions should have accrued to the slender stores of healing, independent of clerical aid, cannot for a moment be doubted. Still however, from causes assigned, more frequent calls would be made, in these times, on the hierarchy, for medical assistance, than other members of the community; a connection would thence result betwixt physic and the altar, so strict as to confer a peculiar character on the former, a connection, indeed, without an attention to which it becomes impossible to explain many circumstances in the early annals of our art, one, of which the influence has hardly even yet passed away, and one therefore, considering that it has been almost entirely overlooked by every historian of medicine, that seemed fully deserving every illustration bestowed upon it in the preceding pages.—Of this alliance, and its consequences, some additional examples, in the disquisitions that follow, will be immediately presented to the reader.



CHAP. II.

Of Medicine in Egypt, and the East.

HAVING thus speculated, at sufficient length, on the primeval annals of medicine in Greece, attention may next be turned to the condition it was destined to assume, during the same early periods, in the countries of Egypt, and the East. The priority of healing, in these latter regions, has already been remarked. Boasting an earlier origin, as well as the incalculable advantage of written language, a contrivance unknown to the West, physic among the orientals, even during remote times, was to reach a proportional degree of improvement. Hence, when it first claims attention from the medical antiquary, our art, in this part of the world, is found under an aspect of much higher cultivation than any it had yet displayed in Europe. Not only is it observed to be infinitely more copious in its precepts, but to be subdivided into a variety of branches, and each

of these, in some measure, to have attained a regular, and systematic, form. For this rapid progress of physic, and other arts, among the nations of the primeval Chersonese, two causes, besides those enumerated, may probably be assigned: first, the prodigious extent and power of the eastern monarchies; secondly, the peculiar nature of their ecclesiastical establishments.

If a general survey be taken of those parts of the ancient world that were destined to become the principal seats of knowledge, two portions only seem worthy of attention, first, the countries of the East, on the one hand, and secondly, the states of old, or European Greece, on the other. If again of these two important, though unequal divisions of the globe, a comparison be made, so that the physical structure of each be duly estimated, such a difference, in this respect, will be perceptible, as must have exerted a powerful influence, on the progress of their respective possessors, from rudeness to refinement. The slightest inspection of a map will render the truth of this position sufficiently evident. Thus if the eye be turned on the side of Europe, a country presents itself to view, every where unequal in its surface; its shores indented by numerous islands, bays, and promontories; its interior divided by rugged mountains, impetuous streams, and inaccessible forests. Each petty district, meanwhile, is per-

ceived to be the retreat of a separate horde, or tribe, secure in its independence by warlike habits, and an impassable frontier, while such appears the natural strength of the country, as to render it extremely difficult for any one community to subdue another, and a task almost utterly impracticable, to reduce, by force of arms, many of the small principalities, under the same dominion, or administration of government. Such a condition, during early ages of society, is of all others the most adverse to improvement. The contiguity of hostile states furnishes an endless pretext for war; the progress of agriculture, and the industry of towns, are, alike, impeded, and men continually harrassed by fears of invasion, mutual schemes of revenge, or the cares of individual subsistence, find little leisure for the cultivation of arts that are known to flourish only in the bosom of security, and peace. Hence Greece was doomed long to linger in all the torpor of ignorance, and barbarity. Many obstacles were to be overcome, ere she was to reach that high pre-eminence for literature and science, as well as every species of acquirement, she afterwards attained. Many ages were yet to elapse, ere such progress of agriculture, manufacture, and commerce, could be accomplished, as to lead opulence and leisure in their train; ere tranquillity could be secured by the coalescence of petty tribes into larger communities; and ere such forms of gov-

ernment could be devised, as while they tended to call forth every energy of the human mind, were, at the same time, of sufficient force to shield individuals at once from the hazards of internal commotion, and of foreign hostility.

If, continuing the same survey, we withdraw our eyes from Europe, and fix them on the East, a scene in every respect different presents itself to view. In this fair, and ample portion of the globe, we discern, indeed, lofty mountains, magnificent rivers, and impenetrable forests, but at the same time, every where interspersed, immense plains, or an ample champaign country, hardly less remarkable for extent, than an almost boundless fertility. Instead of a region like Greece, parcelled out among innumerable petty hordes, we discover one of which the prodigious population appears blended, and melted down, by the coalition of its inferior members, into a small number of vast political masses, each a mighty monarchy, flourishing in peace, and the concomitants of peace, agriculture, manufacture, and commerce; adorned with splendored cities; skilful in policy; and so guarded by the force of a regular militia, as not only to secure its people from hostile invasion, but to exempt many of them from the necessity of military service. Such a condition of a state must evidently comprise, within itself, every requisite, not only for the rise, but the rapid progress, of

arts and sciences. Nor do the Orientals appear slow in profiting by the advantages of their situation. Asia and Egypt, accordingly, during the first ages, are found far to have exceeded Europe in every species of attainment, and the term of Barbarian, in after times, so lavishly bestowed by the Greeks on every adjoining people, might now have been, with justice, applied, by the more polished Egyptian and Asiatic, to the rude inhabitants of the West*.

Another circumstance no less favourable to the rapid civilisation of these eastern regions, may be discerned in the peculiar nature of their ecclesiastical institutions. The Egyptian and Asiatic monarchies boasted, each of them, the establishment of an hereditary priesthood, that in antiquity contended with the earliest of their kings, and in extent of power and privileges, were to be deemed, if not the superiors, at least the equals of the supreme magistrate†. This order of men, by their

* That such epithet was actually applied by the Egyptians to all those who used a foreign tongue, and, among others, to the Greeks, we learn from the express testimony of Herodotus, (L. II. 158.) In like manner, the Hindus have been accustomed, from time immemorial, to stigmatize all foreigners by the title of *Mp'echas*, a name implying, at once, complete barbarism in arts and sciences, and total ignorance of the laws, and rites, of Brahma.

† Diod. Sic. L. I. 73. Herod. II. 37, 142.

functions and their opulence, exempted from the ordinary concerns of life, seems to have been placed, even during the most early ages, precisely in that situation where the human mind feels itself, both the most disposed, and the best qualified, to indulge, as well as succeed, in the pursuits of speculation; nor will the benefits derived to every species of improvement from the exertions of the oriental hierarchies be found unworthy the distinguished advantages they enjoyed.

To enumerate all the different branches of knowledge for which the world was to be indebted to the sacred colleges of the East, would evidently be foreign to the purposes of a work which professes merely to commemorate the antiquities, and revolutions of physic, yet one among these inventions appears so extremely remarkable, as well as so essential to the preservation of the rest, that even here, perhaps, it ought not to be passed over in silence. The reader will probably be aware that I must mean the discovery of *letters*, or *alphabetic characters*.—Amidst the numerous, and multiform duties of the priesthood, it became none of the least important to retain memorial, not only of the civil and religious laws of the country, and of its political events, but likewise of the observations of science, and the discoveries of art, and in thus recording what it so much imported society to preserve, it is evi-

dent, that some more commodious contrivance would quickly be found necessary, than that commonly resorted to, by rude nations, in the expedient of oral tradition. Various attempts for this purpose seem, accordingly, to have been early instituted in the East, and however inadequate these might have proved at first, as exemplified in the different modes of picture representation, together with those of symbols, or hieroglyphics, yet being continued by a race of men uniting, in their own persons, the singular advantages of leisure, opulence, and hereditary knowledge, it was not likely they should be long exerted in vain, and such was the happy success of the undertaking, as finally to be crowned with one of the most splendid, as well as useful discoveries, ever atchieved by the genius of man, the art of exhibiting sounds to the eye, or the use and practice of alphabetic writing*. The

* That alphabetic writing was a discovery of the primeval Chersonese, not a doubt can be entertained, yet to which of the three nations inhabiting this first civilised portion of the ancient world, it ought to be ascribed, is a question not so easily settled. On a former occasion, I have ventured to impute it, though not without hesitation, to the Hindus, an opinion, from which if true, it must necessarily follow, that the kindred tribes of Phœnicia and Egypt can be esteemed no longer the inventors, but must be reckoned merely the carriers, under Cadmus, (Herod. L. V. c. 58,) and Cecrops, (Tacit. Ann. L. XI. c. 14,) respectively, of letters, into the regions of the West. The stream of public opinion, it is true

numerous, and important, advantages resulting from this improved method of transmitting ideas, to every species of human acquirement, more especially to the practical arts, on account of the superior accuracy, and precision, by which men were now enabled to preserve from perishing their most minute details, it is not necessary here to illustrate; it will be sufficient to remark that *Medicine* was destined to share largely in the benefits of the new invention. The institutes of healing, accordingly, seem early rescued from their hieroglyphic form, and committed to the safer custody of letters. Hence, in the treatises of arts, if those of physic be not deemed the most ancient, they may at least contend in antiquity with any others that can be named. Such a circumstance was necessarily to result from the primordial alliance existing betwixt religion and our art formerly stated, a combination, observed at the present period, to flourish with peculiar vigour among the natives of the East. Not only the medical profession, but all medical learning

has long run in favour of the latter people, and some of the most learned writers have concurred in attributing the honour of the invention to Tot, or in other words, to the hierarchy of Egypt, as Cicero, Tacitus, (Tacit. Ann. l. c.) and Aulus Gellius, among the ancients; Marsham, (Chron. Can. p. 37, 120,) and Warburton, (Div. Leg. vol. III. 104,) among the moderns: but, at the time these authors wrote, the secrets of Sanscrit literature had not yet been disclosed to Europe.

being exclusively in possession of the priesthood, it was reasonably to be expected, that in the first written memorials of human knowledge, or in the first *books*, the precepts of physic were to find a regular place of enrolment, no less than other objects of sacerdotal study; nor is this supposition falsified by the fact. In reality, the earliest lettered productions the world saw, namely those compiled by the three eastern hierarchies of Iran, Hindustan, and Egypt, not only contain the most copious precepts of healing, but treatises of the same art, midst other multifarious contents, are uniformly found to constitute, of these volumes, a regular and integrant portion*.—It has already been remarked, that it was part of the sacerdotal functions to enregister, in the sacred books, not only all civil and religious ordinances, but also whatever attainments of science, or discoveries of art, might be deemed worthy of recording; and it might have been supposed that subjects of such intrinsic value might have been, safely enough, left to assert their own claims to the attention, and respect, of mankind. But a different policy was pursued in the East. In these

* In the Hermetic writings, or Bible of Egypt, the Zend-Avesta of Iran, the Vedas and Upavedas of Hindustan, are discovered, respectively, complete sections on the subject of medicine, as will appear in the sequel. These must be considered, as incomparably, the most ancient monuments of our art.

oriental regions, it was deemed wise and expedient, to consecrate what had been thus deposited in the sacerdotal archives, not only by the highest and most venerated temporal authority, but also by the more solemn sanction of religion. Such institutions in law, or theology, such speculations or acquirements in science, or in art, as on account of the advantages they promised society, had been registered in the holy volumes, the multitude was taught to believe, were of a nature too high and mystical to proceed from the ordinary powers and capacities of men: a more hallowed source was to be assigned them: they were to be regarded as direct emanations from the deity, imparted by him to some favoured mortal, some ancient sovereign, or revered legislator, individuals elevated above their kind by uncommon endowments, and admitted, on that account, to some portion of the divine confidence and familiarity. That such belief, in early times, prevailed, with unlimited sway, throughout the extensive regions of the East, the whole compass of history attests; and the same circumstance will also serve to explain, not only the high degree of veneration in which these priestly writings were universally held, among the Asiatic and Egyptian nations, but also the origin of the title by which they were universally distinguished, over the ancient world, namely, that of *SCRIPTURAL*, or *SACRED, BOOKS*.

But among the beneficial departments of knowledge thus emanating from divine benevolence, none could be deemed more worthy to proceed from the mouth of the deity himself, on account of their supreme utility, than the *Institutes of Healing*. Such an origin we find universally ascribed to medicine, over all the kingdoms of the East. This was a circumstance, as already remarked, to give physic, in these regions, its peculiar colouring and clothing; it will also be found one fraught with some of the most important consequences to the future character, and condition of our art. From its constituting, in this part of the world, at once a priestly avocation, and a regular object of priestly study, may we account for the early infancy, or even adolescence, of healing, in the Eastern world, while the same cause, by hindering its improvement from advancing beyond a certain point, was to blight for ever, the flattering promise of its subsequent perfection, or maturity. The progress of medical knowledge might be advanced, by the labours of a learned and ingenious body of men, but the moment its precepts came to be enrolled in the sacred volumes, further improvement was to cease. Medicine became now of a character too sacred for its stores to be either augmented or diminished, since how could that knowledge be rendered more perfect, which was believed to flow from the mouth of the divinity himself? The medical practitioner of Asia and Egypt might,

safely, employ all the communicated dictates of divine wisdom, for repelling diseases, but he must beware how he transgressed their limits, or added to their number. Medicine was a revealed art in the East, and like other revelations, its infringement was to be guarded against, not only by those anathemas the pagan church knew how to hurl against sacrilege, but by the more formidable; and effectual terrors, of legal punishment. The treatment of diseases was not to proceed according to the knowledge, or intelligence, of the enlightened individual, but solely according to the expressed dictates of the priestly writings. Hence experiment, the only genuine source of improvement in physic, as well as other practical arts; being thus effectually debarred, healing may be said to have reached nearly the same degree of perfection, during our present period, it was ever destined to attain, in the East, by the efforts of the inhabitants themselves, or independent of foreign aid. Hence a fate so widely different was to await the future condition of our art, as afterwards it becomes exposed to view, among the nations of the East, and of the West. In the latter, fostered by the liberal maxims, and independent spirit of Europe, we perceive it constantly advancing towards improvement; while in the former, withered by the blasts of despotism, and superstition, we observe it perpetually stunted in its growth, far inferior in the value of its

attainments, and interesting to the medical analyst, chiefly on account of its singular form, and high antiquity.

These remarks premised, applicable, in their general tenor, to the whole establishments of physic in the East, and of which the present detail will supersede otherwise unavoidable repetition, a nearer view may next be taken of the state of our art, as destined to flourish among the different nations of the oriental world.

SECT. I.

Of Medicine in EGYPT, previous to the Rise of Grecian Letters, and Philosophy.

A VARIETY of circumstances tended, at an early age, to promote the civilisation of Egypt. Some of these have been already enumerated, as the annual overflow of her river, no less happily accommodated, when joined to the flatness of her territory, for the purposes of internal traffic, than for fertilising the soil*. A new source of prosperity may be discerned in the peculiar nature of her geographical position. To obstruct the growing civilisation of states, a powerful obstacle is often seen to arise from the invasion of hostile neighbours; but from this source of interruption and disturbance, the arts and people of Egypt, were alike to be exempted, at a mature age. Protected on the south, the east, the west, and Syrian frontier, by wastes of sand, and the formidable Serbonic marsh, while, on the north, they were defended by the Mediterranean, on its Egyptian shores, every where abounding in treacherous shoals, and hardly affording a single anchoring place for an enemy's fleet, the inhabi-

* The fertility of Egypt is frequently attested in Scripture, Gen. xiii. 10. Deut. xi. 11.

tants of this part of Africa had little to dread from the sudden inroads of external violence (1). Domestic tranquillity, meanwhile, had been long secured in Egypt, by a numerous militia, the wonted submission of her people, and the very early coalescence of her petty tribes under the dominion of a single sovereign (2). Other advantages, at a later æra, were to accrue from her relative position on the globe. Placed at the mutual confines of Europe, Asia, and Africa, she was to enjoy the traffic of all three, and was to form a common entrepot or emporium for the most precious commodities, alike of the eastern, and western world.

So many favourable circumstances must have powerfully promoted the advancement, of every branch of knowledge, in this kingdom, and among the rest, that of *Medicine*. To throw this last into the hands of her hierarchy, the same causes would contribute, as have been observed to operate in other regions of the world. One of these, no doubt, must be esteemed the frequency and fatality of her common, or endemic diseases. The level and marshy soil of Egypt, acted upon by an almost tropical sun, must have been, at all times, peculiarly fertile in that class of maladies which, by the dreadful ravages they commit, are so apt to terrify men's minds into the belief that they can proceed from no other

source than the vengeance of an offended deity (3). Under such impression, the priestly aid would be, of course, invoked, and the alliance of religion and physic once established, would be followed by its usual consequences.—At first, it is probable, attempts would be made by this body of men, to stem the torrent of disease, by such means as the priestly office was likely to supply, prayers and expiations, sacrifices and a pompous ceremonial*, but these measures continually failing, more effectual methods would be substituted in their room, or at least adopted, as auxiliaries. By degrees, abandoning in reality, though not in appearance, the vain pretences of devotion, as remedies against disorders, views of self-interest, humanity, habitual and hereditary love of knowledge, might alike impel the hierarchy to seek the genuine stream of medical information in its only sources, the nature of distempers, and the powers of remedies. The talents of a diligent and ingenious body of men once directed to a particular object, were not likely to be long exerted in vain. The natural course, and termination, of various maladies sedulously watched, would be gradually ascertained, a species of inquiry for which ample opportunities lay open to the priesthood (4); dissections both of men and animals, more especially the latter, would be dili-

* * See Conring. de Hermet. Med. L. I. c. VIII. p. 70, 78.†

gently pursued, experiments with various articles of the *Materia Medica* would be carefully instituted; and, in the progress of time, not only would such a number of powerful medicines be discovered, but such a body of medical knowledge atchieved, as in many instances, to ensure the relief of those among the Egyptians whom the sufferings of various illness might, from time to time, induce to demand assistance from the members of their native hierarchy.

Whatever probability may be ascribed to this reasoning, or whatever methods may have been pursued by the priesthood, to qualify themselves for the offices of physicians and surgeons, the success of their labours, at least, cannot be called in question. Full proof of this is derived from what we know of the scriptural, or sacred books of the Egyptians.—According to oriental belief, as already explained, every species of useful information was supposed to be derived from the immediate communication of heaven, and the personage, to whom in this part of the East, the divine mind had vouchsafed to discover his supreme behests in law and theology, in science, and in art, was the illustrious TOT, the most revered of Coptic lawgivers, though better known to the Greeks, under the name of Hermes, and among the Latins, by that of Mercury (5). Among the dictates of eternal wisdom thus

imparted to Tot, by him to be recorded in the sacred archives, and promulgated, as occasion required, to a grateful world, the *Institutes of Medicine*, as usual in the oriental codes, are observed to occupy an ample, and distinguished place. This is a fact of which we have the most satisfactory evidence derived from a source that cannot be disputed, namely the writings of Clemens of Alexandria *. In the works of this author, is still preserved a brief, but complete summary of the labours in physic of the Egyptian sages, and from this abstract it is found, that no less than a whole seventh portion of the hermetic scriptures was devoted solely to medicine, or consumed in detailing the complicated arts of the physician, and surgeon. These volumes, so interesting to the medical antiquary, have not themselves survived the wreck of time, but their titles which still remain, sufficiently demonstrate the proficiency reached by healing, on the banks of the Nile, so as fully to justify the truth of the preceding remark. The *MEDICAL SCRIPTURES* of Tot, according to Clemens, were six in number, and they are learned to have treated of the following subjects: the I. of the structure of the body, or *Anatomy*; the II. of *Diseases*; the III.

* No testimony can be more satisfactory than that of this author, himself an Egyptian, at once distinguished for his learning, and the most intimate knowledge in the antiquities of his country.

of *Instruments*; the IV. of *Pharmacy*, or the *Materia Medica*; the V. of *Disorders* of the *Eyes*; the VI. of the *Distempers* of *Women* *.

It appears, from direct evidence, that at first, probably ere medicine in Egypt had attained such forwardness as to admit so regular a distribution of its parts, each member of the hierarchy might exercise, indifferently, the functions of practical physic. As the art became more complicated, however, or advanced nearer maturity, a new arrangement of duties might be found necessary. By multiplying the branches of healing, the labours of the practitioner must be necessarily augmented, and a greater number of individuals would be required for the fulfilment of its more extensive avocations. Certain peculiar circumstances might contribute, likewise, to detach a

* For by far the fullest account extant in antiquity of the Hermetic or Egyptian scriptures, as will afterwards be found, precisely similar, in kind and holiness, to the Zend Avesta of Persia, and Vedas of Hindustan, see Clem. Strom. L. VI. 4. Potter's ed. and accompanying note of Editor. Of these sacred volumes the number, in all, was XLII. To those among them that treated of physic, perhaps, ought to be added another, that mentioned by Horapollo under the name of *Αμῶρη* (Ambre). In this book, are said to have been enumerated the various signs of death, and recovery, so far as they could be ascertained by the position of the patient, in bed, during sickness. (Horap. Hierog. L. I. 36.)

portion of the priesthood from the accustomed duties of their order, and to invest them, more exclusively, with the functions of the physician, and surgeon. What the nature of these circumstances may have been, it is now difficult to determine, but that such distribution of labour actually took place, among the priesthood, is learned from the same high authority in Egyptian antiquities formerly quoted, that of Clemens of Alexandria. It appears from this writer, that while one class, or a majority of the sacred college, was to continue occupied in the more ordinary functions of religion, a second, or inferior order, was to busy itself more particularly in the profession of healing. These last, long to furnish regular professors of our art to the Egyptians, though still participating in the high character, and privileges of their corporation, appear, in time, so completely disjoined from their brethren, as to be distinguished by an appropriate dress, and a peculiar designation. Among the Greeks, they were known under the name of the *Pastophori*, and it was their allotted function to study the six medical scriptures of Tot, as it was the duty of the other members of the hierarchy, to render themselves minutely acquainted with the remaining thirty-six volumes promulgated for the instruction of his countrymen, by that eminent lawgiver (6).

Besides these general notices concerning the pristine state of our art, in Egypt, some others have been collected, and preserved, by the diligence, or intercourse of Grecian, and Jewish writers. Of these, the high imputed excellence of the Egyptian physic; its hereditary condition among its professors; as well as the singular legal ordinance by which they were alike prohibited from employing any other methods of cure, except what were enumerated in the sacred books *, or treating more, each of them individually, than a single distemper, together with the extraordinary number of the medical tribe in Egypt †, may, perhaps, be justly esteemed the most remarkable.

* In ancient Egypt the practioner was obliged to regulate his conduct, not by his own views, but solely by what was written in the VI. sacred books of Tot. Provided he followed these implicitly, no blame was incurred, though his patient died; if he departed from them in the least, and at the same time the case ended fatally, his own life became the forfeit. (Diod. Sic. L. I. 82.)

† The minute division of medical labour, in ancient Egypt, together with the consequent multitude of Physicians, or rather Healers, are two facts we learn from Herodotus (L. II. 84). The following is an accurate version of the passage: "The art of medicine is so practised in Egypt, that there is found an individual healer for each individual distemper. Hence, the whole country is filled with healers. Some take charge of disorders of the eyes, others of those of the head, others of those of the teeth, others of those of the abdomen, and others of secret diseases."

The first, and third, of these circumstances, admit of easy explanation, respectively, from the high degree of estimation the advanced state of physic, in this part of the East, would naturally excite among ruder neighbours *, and the inviolable nature of every injunction of art that happened to be contained in the scriptural volumes; the remaining other three, as much more extra-

* The proverbial excellence of the Egyptian medicine we find strongly attested by the Prophet Jeremiah, "Go up into Gilead, and take balm, O virgin the daughter of Egypt: in vain shalt thou take many medicines; for thou shalt not be cured." (Ch. XLVII. 11.) Homer long before had delivered a similar testimony.

Ἰηλὲς δὲ ἕκαστος ἐπιστάμενος περὶ πάντων
Ἀνθρῶπων ἢ γὰρ Παιήωνος ὑπὲρ γυνήδλης.

Od. IV. v. 231, 232.

Pope, or rather his coadjutor Fenton, to whom was allotted the task of translating the IVth Odyssey, has but feebly rendered the meaning of the Poet, in the above lines: Cowper is observed to come much nearer the original.

From Pæon sprung, their patron God imparts
To all the Pharian race his healing arts.

Pope Od. IV. v. 321.

There every man in skill medicinal
Excels, for they are sons of Pæon all.

Cowp. Od. IV. v. 291.

ordinary in their appearance, will necessarily demand a fuller investigation.

Throughout the whole of the eastern world, about the period its genuine history begins, may be perceived to have arisen that half-formed, and stunted species of civilisation, during which, though complete division of labour may be introduced into a state, yet in consequence of the operation of causes into the nature of which it would be wandering from the purport of this work to inquire, not only all ranks, but the various occupations of men, are observed to become strictly, and purely hereditary. Such a view of its inhabitants is, for the most part, exhibited in the history of every country not absolutely savage, and such appears to have been the precise condition of the oriental monarchies, at the time, their respective legislation commences. But he who would erect successfully a form of government for any people must carefully study the peculiar circumstances of those for whom he is called to legislate, and the first laws of nations, accordingly, are in general observed to be nothing more than their ancient usages, preserved from violation, by the force of written statute, instead of consuetudinary practice. Agreeable to this principle, it became the policy of the eastern law-givers to establish that hereditary distribution of employment, the natural progress of society had

tended to introduce, among their subjects, by the additional weight of legal, and positive ordinance; and as whatever it was judged proper to promulgate from the sacred code, was esteemed the awful, and immediate dictate of heaven, the numerous avocations of life were thus to be preserved for ever separate, by the inviolable sanction of divine, no less than of human, regulation. Hence a remarkable trait of distinction, in the manners and institutions of the East, as contrasted with those of Europe. Midst the freedom of the latter, while rank and profession abandoning their ancient patrimonial form, might be shifted, at will, as occasion or interest demanded; from the despotism of the former, men were to remain for ever tied down to the same cast, or mode of industry, nor was the son permitted to desert either the station of society filled, or the occupation that had been pursued, by his father. What was to regulate the exercise of other avocations, in the East, was to direct also that of healing. Medicine both in Asia, and Egypt, was a hereditary, as well as a revealed art, and he who was born a physician was prohibited equally by heaven, and by law, from abandoning the profession of his ancestors.

The minute distribution of medical labour, in Egypt, by which the practitioner was forbidden to treat any more than a single distemper, will receive explanation, partly from the natural im-

perfection of arts during rude times, partly from a peculiar dogma of Egyptian superstition. In every branch of knowledge at all complicated, and, consequently, in none more than in medicine, the first steps towards improvement are observed to be purely analytical, and to consist entirely of a few scattered facts and observations ascertained, or collected, by the experience of different times, or of different persons. Hence, during the first ages, all remedies are esteemed specific, or adapted to the cure of a single disease, while the truths on which synthetical reasonings in pathology become afterwards founded, being as yet unknown, individuals rarely attempt the management of more than one ailment, or, at most, of an extremely limited catalogue of distempers. What has thus been observed of practical physic, holds no less true of surgery. He who heals by the hand, and external medicaments, in early times, deriving no light or instruction from general views of physiology, or the structure of our frame, is apt to confine his manipulations to a few local maladies, luxations for instance, and is found alike incapable, as unambitious, of any higher, or more universal surgical attainment. But to supply the deficiencies of healing as a system, or as consisting of parts mutually illustrating each other, composing a whole, and practised by the same individual, other pretenders to medical, or surgical skill,

arise, no less limited in their views, or restricted in their practice, till, at last, a curer presents himself for almost every principal disease of a country, and this unscientific division of physio is in some measure compensated by the numbers, or less distracted attention, of its professors. Such a state of medicine may be observed to prevail in many countries of the world, and such, it is likely, was its actual condition in the East, at the remote æra, when the first regulations concerning it were enacted by the priests of Egypt; when its various avocations having already become hereditary, through the same causes that render other arts patrimonial, permanence was to be given to this its primitive form, by the united sanction of legal, and religious, ordinance *.—A more powerful circumstance to

* The same minute division of medical, and surgical labour, has been observed to exist in Egypt, during modern, no less than ancient times, as when visited by Alpinus, and owing to the same cause, namely, the semibarbarism of the people, though imputed, by that author, to a different origin. (Prosp. Alp. de Med. Egypt. L. I. c. 1.) Another example is to be found, at present, in Japan. General tenets of anatomy, physiology, and pathology, being totally unknown, every thing in that island, is empirical, and as among other Empirics, the art is split into a thousand departments. Some practitioners profess to cure only internal, others, merely, external maladies. Some practise acupuncture alone, others confine themselves to burning with *moxa*, which last consists of the tomentum of the Mugwort, or *Artemisia Vulgaris*. Ano-

operate a like effect, as before remarked, was a particular dogma of Egyptian superstition. In the wide extended theogony of Egypt, a race of celestial beings was supposed to exist with attributes more peculiarly medical, and whose benevolent function it was, to guard each of them from disease, a separate, and allotted portion of the frame of man. This order of deities is generally mentioned by the Greeks under the name of the Decans, or the thirty-six demons of the air *, a number into which, it was reputed likewise, they had portioned out, for protection, the various parts of which our body is composed. As the whole of these divinities might be invoked for aid, during sickness, and as they would be supplied with a suitable train of priests †, it is reasonable to believe, that supplicants would be directed in their choice to that Decan supposed to preside more immediately over the particular limb, or organ, affected with disease, till the custom once arising of consulting the various

ther class restrict themselves entirely to the use of frictions, &c. Hence there is found no single individual who attempts the treatment of any considerable number of diseases, whether external, or internal.

* (Origen cont. Cels. VIII. 58. p. 785.) For a particular account of the Decans, and their functions, see Jul. Firmic. L. II. c. 4. quoted by Conring de Her. Med. L. L. c. 11.

† See Herod. L. II. 37.

ministers of these celestial personages, about separate distempers, might materially assist in producing that minute division, in the labours of the physician, observed to characterize the national medicine of Egypt.

The prodigious *multitude* of the professors of our art, discernible in this kingdom, was also to form an object of attention among strangers, and was to excite, at the distance of four centuries, the common wonder of the first poet, and the earliest historian of Greece*. The reason of this appearance may, perhaps, be supposed to have received sufficient elucidation from some of the preceding remarks, it may be further explained by the immense host of divinities worshipped in the temples of Egypt, joined to a particular modification of the doctrine of the metempsychosis, adopted by her hierarchy. The enormous multitude of divinities adored by the first civilised portion of Africa, and the origin of some of them, derived no less from the most contemptible of the vegetable and bestial creation, than from the elements, and stars of heaven, was to prove a frequent theme of ridicule, among the more en-

* Odyss. V. Herod. L. II. Plato may be observed, at a still later period, to add his testimony in favour of this remark of the historian, and poet. See Laert. L. III. Seg. 7.

lightened part of antiquity*. But of all this ample catalogue of Gods it was a common attribute to heal diseases, and Egypt may be thus said to have nurtured, in her territory, a greater body of medical deities than the rest of the pagan world put together. Not only were the Decans, or Demons of the air, celebrated for a surpassing knowledge in physic, but all the higher, and more illustrious personages, of her theogony, were supposed no less ably qualified to fulfil the various functions of that useful art. For superintending the worship of this enormous pantheon, a proportionate number of priests would be found requisite, and as each of the godhead might be indiscriminately invoked for medical aid, the whole members of the hierarchy might thus be occasionally called upon to exercise the offices of the physician, and surgeon, a species of duty actually imposed on them, till by a natural division of labour, the avocations of healing became more particularly delegated to a separate order of the priesthood, those described, by the Greeks, under the name of the Pastophori. Further to swell the lists of the medical tribe in

* It is affirmed by Herodotus that the Egyptians were the most superstitious of all ancient nations. (L. II. 37, 65, 82.) The sacred animals of Egypt were maintained, at the public expence, by allotted portions of land; offerings of gold and silver were frequently presented to them, or rather their keepers, on account of their supposed influence in curing diseases. (Diod. Sic. L. I. 83.)

Egypt, was also to conspire a modification of the metempsychosis prevalent in that kingdom. By the priesthood it was taught that the human soul, after having undergone its due number of transmigrations, was finally doomed to re-occupy its former mortal tenement*; to guard the bodies of the dead, therefore, from putrefaction, so as to keep them in due condition for the reception of their ancient inhabitants, became the pious, and indispensable, duty, of surviving relatives. It was the performance of this office, without doubt, that first gave birth to the celebrated, and well known practice, of embalming. But a religious rite was to be performed by the priests only†, and would naturally be committed to those among them usually occupied in the pursuits of medicine, by their skill in anatomy, not only best qualified to remove such parts of the body as were necessary to the preser-

* Herod. II. 123. The term of these transmigrations was fixed, by the priests, at 3000 years.

† Priests of the highest rank were accustomed to officiate in the process of Embalming. Thus the *Γραμματιστής*, or Scriba, marked off the extent of incision to be made, on the left side of the dead body, by the *Παρασχιστής*, or Dissector, with an Ethiopian stone, (according to Hasselquist, a piece of granite,) formed into the shape of a knife. This last operator was held in great abhorrence by the populace, but the *Ταρχευταί*, *Tarcheutæ* or Picklers, were highly respected. (Diod Sic. I. 92.)

vation of the rest, but also versed in such manipulations, and acquainted with such antiseptic drugs, as were best fitted to secure from corruption, the otherwise perishable remains of departed kinsmen, and friends. A custom thus deemed of such high importance to the future welfare of every individual, would not be restrained to any particular class of society, but, as we know from direct evidence, was diffused throughout the whole people*; the number of embalmers, therefore, must necessarily have been considerable, and being added to the already ample list of the medico-sacerdotal establishment, sufficient reason, as well as explanation, will appear for the remark of Homer, repeated in after times, by Herodotus, that in traversing the land of Egypt, so great was the multitude of the healing tribe, every man to be met with was a physician.

Such may be esteemed some of the principal circumstances, that have reached posterity, regarding the ancient condition of our art, as observed to exist among the first civilised people of Africa. If dismissing these generalities, we attempt to contemplate it under a nearer aspect, so as to estimate the proficiency of its different parts, a more difficult task awaits us, and the want of due materials of information is found, at every step,

* Herod. L. II. 86.

to embarrass the path of the medical antiquary. The laborious compilations of Le Clerc and Haller, in those articles that treat professedly of Egyptian medicine, are found to afford little assistance, and the titles of the books of the Pastophori, though they demonstrate, beyond a doubt, the general proficiency of our art among the Egyptians, yet throw not a gleam of light on the particulars of its progress. In this extreme defect of intelligence, it becomes allowable, or necessary, to trespass, in some degree, on a succeeding period of history, that which was formerly said to commence with the rise of letters, and philosophy, in Greece.—The obligations, to Egyptian wisdom, of those Grecian sages who first planted the seeds of science in Europe, are sufficiently known; medicine, in all its branches, is found universally to occupy an important place in their writings, and much of what was thus taught of healing may, in all fairness, be imputed to Africa, or may be regarded as the original tenets, or discovery, of its learned hierarchy. Taking this position for granted, which, though not on positive, may yet be said to rest on very strong presumptive evidence, an attempt may now be made to ascertain the various degrees of proficiency reached by physic, in its different departments, as cultivated among the priests of Egypt. In this inquiry, no better method occurs than to follow the books of the Pastophori, and according to the order as-

signed them by Clemens. Of these, as already recited, the I. vol. is said to have treated of Anatomy and Physiology; the II. of Diseases; the III. of Pharmacy, or the *Materia Medica*; the IV. of Instruments of Surgery; the V. of Disorders affecting the Eyes; the VI. and last, of the Distempers of Women.

L. What the precise discoveries of the Egyptians were in anatomy, it becomes now impossible to ascertain, since the sacred treatise, on this subject, is unfortunately lost; yet, is there sufficient reason to believe, that they were neither few, nor inconsiderable. In the distribution of labour among the priests, it appears to have been the original and peculiar duty of those termed *Pastophori*, to immolate, with their own hands, such living creatures as devotion was wont to present at the altar, and, more especially, to scrutinize with exactness, those internal parts, whose conformation or structure, was supposed to indicate the secrets of futurity, and the will of the gods: from an employment like this, constantly exercised, there could not fail to result, in time, no incompetent acquaintance with the fabric of the inferior animals. Greater proficiency, in the same pursuits, would be attained, when the offices of healing came to be joined with those of religion, and the desire of acquiring useful instruction incited to anatomy, no less than the calls of superstition.

To the dexterity of the same members of the priesthood, in bestial dissection, the abominable custom, not unfrequent in Egypt, of spilling the blood of man in honour of the deity*, would speedily conjoin knowledge, more or less accurate, concerning the intricacies of their own frame, a branch of acquirement to be further increased, when physiological curiosity, or the desire of investigating the source of disease, had taught them, as practical physicians or surgeons, to examine, by the knife, the hitherto latent organization of the dead human body. That this source of anatomical information, above all, interesting, or subservient to the views of practice, had been early laid open in Egypt, we have the testimony of her ancient annals. Not only her Pastophori, but even various kings of her early dynasties have been celebrated for the skill they attained in

* That human sacrifices were practised, during early times, in Egypt, the most satisfactory evidence may be adduced. For the fact we have, in the first place, the testimony of Manetho. *Plut. de Isid. et Osir.* c. 73. see further *Diod. Sic. L. I. 88.* *Porphyr. de Abstin. L. II. c. 55.*—In the ruins of Medinet abu is represented a grand procession after a victory. Among other offerings may be observed a child bound with fetters, and presented as a victim at the altar. (*Denon. vol. II. 216, Eng. trans.*) According to tradition, cannibalism was frequent in Egypt previous to the time of Isis and Osiris. *Diod. Sic. I. 14. 90.* In one part of the above named procession the king himself is represented in the act of officiating as priest. (*Den. l. c.*)

investigating the corporeal structure of their species. This last circumstance, though at first sight of extraordinary appearance, may yet receive an easy explanation from the peculiar polity of the East. In Egypt, during the first ages, the altar was, all times, at least equal to the throne, and what was avowedly a priestly, might occasionally become a royal art, or be exercised without degradation, if inclination dictated, by the sovereign *.

Although the general proficiency of anatomy among the Egyptians be thus admitted, yet what were its excellencies or defects, as cultivated by this people, or how justly the body was distributed by them into its several parts (7), no direct memorial now remains to inform us; happily, the same veil of obscurity has not altogether concealed from view their tenets, or discoveries, in physiology. This last assertion is evidently made under the qualification formerly stated, and of which the truth was affirmed, that much of the science

* Three sovereigns of Egypt have been chiefly celebrated for this species of research, Athosthas, or Athotis, first king of the first dynasty; Sesorthus of the third Memphitic race, who committed the history of his dissections to writing; and Necepsus, who flourished in the twenty-third Olympiad. Conring. de Herm. Med. and auth. p. 82. For the general fact that the Egyptian kings practised anatomy, see Pliny, L. IX. c. 5.

taught by the founders of philosophy in Greece, was in reality imparted to them by the hierarchy of Africa. Proceeding upon this postulate, the physiology and pathology of the old Pastophori must, of course, be looked for in the medical remains of those illustrious sages, who returning deeply imbued with the various learning of Thebes and Memphis, first instituted seminaries of knowledge, for the instruction of the western world*.

When we contemplate, in their prodigious magnitude and variety, the primary philosophic labours, both of the *Ionic*, and *Italic* schools, the remark will irresistibly occur that the same circumstances which characterise the nativity of

* There were four celebrated schools of philosophy in ancient Egypt, to which the Grecian sages used to repair: that of *Thebes* where Pythagoras studied; that of *Memphis* where Orpheus is supposed to have been instructed, and more certainly, Thales and Democritus; that of *Heliopolis*, the On of Scripture, where Plato and Eudoxus were taught; that of *Sais*, where Solon resided. The two great founders of Grecian philosophy, it is well known, were *Thales*, and *Pythagoras*, the first a pupil of the priests of Memphis, and founder of the *Ionic* sect, the second a disciple of the hierarchy of Thebes, and founder of the *Italic* sect. From these two primary sects arose, in after times, a variety of others. From the *Ionic*, according to Brucker, sprung the Academic, Cyrenaick, Eristic, Peripatetic, Cynic or Stoic; from the *Italic*, according to the same authority, proceeded the Eleatic, Heraclitean, Epicurean, and Pyrrhic.

arts, are no less destined to accompany the infancy of the sciences. At the origin of the former, each man is observed to be his own artificer, and is found willing to embark in whatever occupation, however difficult, that may appear capable of administering, either to his wants, or convenience. In like manner, those who early devote themselves to the study of the latter, overlooking, in the general imperfection of knowledge, the almost boundless extent of its several parts, one of which proves often more than sufficient to exhaust the most active intellect, fondly attempt to penetrate, by their individual exertions, every secret of nature, and to embrace within their single grasp, the whole immense circle of learning, and philosophy. It is more just and adequate notions concerning the limited nature of the human powers, attainable only in after times, that tend to correct such errors, as well as inculcate the lesson, that for the certainty of science, division of labour must be accounted no less indispensably requisite, than for the perfection of art.—Amid the wide range of inquiry allotted to themselves by the philosophers of Miletus and Crotona, and amid the ample stores of instruction they had imbibed from the Egyptian hierarchy, it was not likely that medicine should be forgotten, and the dogmas and discoveries of physiology are, accordingly, observed to have occupied no inconsiderable share of their

multifarious labours. Much of what has been preserved in their actual, and traditionary remains, upon this subject, may be imputed, in its primary origin at least, to the lessons of the Pastophori.

Cultivated by the genius, and fostered by the encouragement of a learned, and speculative body of men, medicine in Egypt was not long to continue a mere empirical art, destitute of rules, or principles, but being found capable of admitting certain general axioms, was soon to attain both the rank, and appellation, of a science. In this point of view, it must evidently be regarded as a branch of natural philosophy, and so close has been the union, that all theories of the former will be found, in every age, to have derived their general reasonings from such dogmas of the latter, as are observed, from time to time, to have merited, or enjoyed, the most distinguished share of public approbation. Of this ancient and indissoluble alliance, the first example may be, with truth, affirmed to have taken its rise in the East.—After contemplating the heavens, and devising theories of astronomy, the next object of philosophical pursuit, among the Egyptian hierarchy, would be to arrange, and classify, the various objects, and phenomena, of the inferior world. The fruit of their labours in this path of investigation was the oldest system of physics

extant, that which is built on the celebrated hypothesis of *four*, or at most *five elements*, and as many *elementary qualities*, from the commixture and agency of which, it was contended, all substances of the universe, however diversified their appearance, were to derive alike their condition, composition, and origin. To this theory of natural philosophy, the earliest adopted by our race, and in antiquity yielding only to their knowledge of astronomy, was added another of hardly less ancient date. The sages of Thebes and Memphis, accustomed to the highest flights of speculative inquiry, when they contemplated under a comprehensive point of view, the wide extended circle of nature, when they considered the beautiful proportion, and mutual dependence of its parts upon one another, together with the order and harmony that pervaded the whole, must have become irresistibly impressed with the idea, that for the production of the universe, brute matter was to be deemed inadequate, and that *mind*, or *intelligence*, was indispensibly required; and there would thus spring, from the temples of Egypt, not only the first theism of pagan antiquity, but the sublime dogma of the *Soul of the World* *. From this primitive system of physics,

* (See Bruck. Hist. Crit. Philos. L. II. c. 7. particularly 289 and 299.) By the authorities there cited, it appears, that the elementary system of physics, together with the

the oldest theory in medicine, that taught by the Pastophori to the masters of the Ionic and Italic schools, may be perceived distinctly to have arisen. This consisted merely in applying the same reasonings that were accounted valid respecting the rest of material substances, to the constitution, and fabric, of the animal machine. Similar elements, and primary qualities, the combination and action of which, formed, and regulated, other sublunary existences, it was maintained by the new hypothesis, were also to constitute, and direct, the living organization of the human body. Nor was the microcosm, or little world of man, to be left destitute of a presiding, or guardian power, any more than the universe itself. In its structure, and movements, it might be observed to display no less infallible symptoms of wisdom, and regularity, than the world at large, and, like it, must be supposed governed by a separate independent principle, inferior without doubt, in duration and dignity, to that of the former, but as far as its limited functions extended, to be esteemed no less wise, self-taught, and intelligent (8).

belief of an eternal intelligent mind, forming, and presiding over, the universe, prevailed on the banks of the Nile, long previous to the time they were heard of in Greece. (See Bruck. also in the life of Pythagoras, particularly, T. I. p. 1074.) It will afterwards be found, that the same dogma, with others that flourished in the Grecian schools, was of a date even more ancient, on the shores of the Ganges.

Such may be reckoned the sum, or grand outline of physiological doctrine, to be gathered from the mutilated fragments still happily preserved of the Ionic, and Italic sects, and which, after it had received improvement from succeeding Greeks, it is needless to apprise the learned reader, was long to reign, with undisputed sway, in the schools of physic. Without detracting from the merit of Europe, in its germ, at least, it may be imputed to the East. If, for its ultimate growth, it was to be indebted to Grecian culture, it must certainly be allowed to have first fixed its root, and pushed out its earliest scions, on the banks of the Nile.—To the same origin may, with similar probability, but not equal proof, be referred, those fragments of disquisition and experiment on the subject of animal generation observed, so plentifully, to abound in the remains of the early Greek philosophers, more especially those of the Italic school *. The mysterious physiology of the sexual intercourse, we know from direct evidence, formed a favourite branch of study with the Brahmans, or hierarchy of India, and from the strict identity of religion and philosophy observable between the two extremities of the primeval Chersonese, there is sufficient ground to believe, that it constituted a no less interesting topic of inquiry among their brethren of Egypt.

* See Hall. Bibl. Anat. T. I. p. 4—14.

Hence the opinions and discoveries, upon this subject, promulgated among the early Greeks, may be presumed, many of them, to have originally issued from the colleges of Thebes, or Memphis. Thus the doctrine of equivocal generation, in one place, is denied by those ancient sages, as contrary to truth, while in another; no contemptible history is delivered of the whole progress of the human foetus, investigated, as appears, by dissection and experiment, from conception to birth; of the periods observed, in the evolution of its different parts, with an accurate account of its two investing membranes, on which we find bestowed, by the school of Pythagoras, the same names they still bear in all systems of anatomy*. Many of those links of analogy known to subsist, betwixt the two animated kingdoms of nature, are also pointed out by these philosophers, that plants, as well as animals, are distinguished by the

* Various other instances of speculation regarding generation are to be found in all accounts of the philosophy of Pythagoras. (Laert. L. VIII. Seg. 28, 29.) For a specimen of such among the native Egyptians, whence the founder of the Italic sect derived all his doctrines, see Horapoll L. I. Hierog. 9. The names of Chorion and Amnion were first bestowed on these membranes by Empedocles, one of the most distinguished among the pupils of Pythagoras. The medical writings of Empedocles, though now lost, were highly prized by the ancients. So often had they been perused by the celebrated Diocles Carystius, stiled, at Athens, the second Hippocrates, as to be repeated by heart.

attributes of irritability, and sex; that the seeds of the former, in their structure and functions, bear a striking resemblance or identity to the ova of the latter*; that as in the animal world, puberty must precede procreation, so in the vegetable, the formation of a perfect seed can only follow efflorescence†. To the above speculations are likewise found added various attempts to explain the physiology both of smell, and hearing, the latter with considerable success, and it is subjoined, from observation and experiment, that the brain of man, and other animals, must be accounted the principal seat alike of vitality, and intellect. Mingled with the tenets of the same philosophers may be observed some of more equivocal certainty; such as that animals meliorate in their nature, or rise in the scale of being, in consequence of successive generations; and a theory revived, of late years, by an eminent poet, as well as ingenious speculatist‡, may thus perhaps be enumerated among the original lessons, taught to their first Grecian disciples, by the hierarchy of Egypt.

II. The pathology of the Pastophori was to derive its origin from the same source with the tenets of their physiology. It could not escape

* Empedocles.

† Alcmaeon.

‡ Darwin. see Botan. Gard.

the attention of those who framed the first system of Physics, that though the general tenor of appearances in the universe denoted the highest degree of order, and regularity, yet that this harmony could not be accounted perpetual, but was liable to be occasionally interrupted*. Certain derangements might be observed to take place, from time to time, in the material world, and it was the business of philosophy to investigate, or explain, their causes. According to the hypothesis invented by the priests, the whole phenomena of nature were made to depend on the proper commixture, and agency, of a few elements, and a small number of primary qualities. But this due elementary combination, and operation of attributes, it followed from the same reasoning, might be disturbed, in various ways, either by the substitution of certain elements in place of others, or the prevalence of particular

* The system of things below, as having a beginning, was consequently liable to corruption, or change. Such was the old doctrine of Egypt, as appears from the lost writings of Manetho, and Hecataeus, quoted by Laertius, (in *Proœm.* Seg. 10.) This occasional want of order and regularity in the system of the universe, according to Plato, took its rise from the original brutality, or perversity, of matter, a quality so inherently united with it as not to be entirely overcome by all the energy of the primary intelligent cause, or soul of the world. (Bruck. *Hist. Crit. Philis.* T. I. 685.) The same tenet was adopted by the Stoicks. (Enfield's Bruck. vol. I. 335.)

qualities over the rest. And hence was to arise a long train of disorders, in the system of the universe. The soul of the world, meanwhile, was to remedy these evils in the best manner she was able, or at least to take care that however partially inconvenient, or destructive, they might seem, the injury inflicted by them on the general frame of nature, should be neither material, nor permanent (9). In applying their hypothesis of physics to medicine, as was formerly remarked, the same philosophers assumed, as a postulate, that the human body was composed of principles, and directed by attributes, precisely similar to such as were known to govern, and constitute, the different terrestrial objects by which it was, on all sides, surrounded. That it was no less liable to disorders than the world at large, woeful experience would sufficiently instruct them, and to explain these, a system of pathology became requisite. Such a system was readily supplied in their theory of physics. As all disturbances in the universe were to be accounted for from some fault in the elements, or primary qualities, so all diseases, in the human body, were to be deduced from an exactly similar origin. When the elements and qualities subsisted in their due proportion, then the most perfect order and harmony reigned in the universe; when the same happy state prevailed in the human body, the most complete health was enjoyed by the individual. The

moment, however, undue predominance arose either of elements, or qualities, the aspect of affairs was changed. The world became the prey of disorder, the body the victim of disease. The presiding power of our frame, meanwhile, if she could not altogether prevent the occurrence of distempers, was at least to repel them with what force she might; and when they did actually effect a lodgement in the constitution, was to remove them by means of such resources her innate wisdom and intelligence enabled her to supply*.

Among the elements out of which had been fabricated the frame of man, the fluid portion, or the *humours*, seems to have attracted the principal share of attention, from the first reasoners on the subject of medicine. During the currency of distempers, the condition of these last is much more apt to strike the eye of the observer, than the state of the solids. The most deadly affection of the nervous, or muscular fibre, might readily escape observation, but hemorrhagy, or an extraordinary flow of blood, morbid changes of excre-

* According to Plato, whose whole physico-theological system may be justly esteemed Egyptian, the soul or governing principle of the human body, was an emanation from the soul of the world. In intelligence, however, the former was to be reckoned far inferior to the latter, having a mixture of gross matter in its composition. (Enfield's Bruck. vol. I. 232.)

tion, whether in point of quantity or quality, with the discharges from ulcers, wounds, and abscesses, would infallibly claim the notice of every person, even the least conversant, in the phenomena of diseases. It may be for this reason that the first general pathology known to the world was to place the basis of its doctrines on alterations of the fluids only. Provided the elements and qualities of this part of our frame existed in their due proportions, health was to be the happy result; but if disproportion of either arose, disease was to be the inevitable consequence. The first of these states of the humours was early expressed among the Greeks by the term *Crisis**, in Latin *Temperies*; the latter by that of *Acrasia*, in the Roman tongue, rendered *Intemperies*. In the ancient system of physic maintained by Egypt, the

* This term *κρῆσις* is of very old date, and was used by Pythagoras to denote the due admixture of elements in the universe, according to the doctrine taught him by the Egyptian priests. It occurs under this acceptance in a passage of Justin quoted by Brucker, and which as written in the Doric dialect, is concluded by the latter, to have been actually copied from some genuine ancient treatise of the Pythagoric school. In this excerpt, the presiding power, or *θεός*, is stiled *κράσις ἰὼν τῷ ὅλῳ*. (Bruck. T. I. 1075.) After the elementary doctrine came to be applied to the human body, or Microcosm of man, the word *κρῆσις* was naturally employed under an identical meaning by Hippocrates, and other medical writers. —The appellation *φύσις*, *natura*, was bestowed by Pythagoras

elements and primary qualities were each of them respectively accounted four; to the *humours*, all of them perhaps mere modifications of the original principle water, an equal number was assigned, and the varying changes of the *blood*, and *pituita*, the *yellow*, and the *black bile*, were to regulate and determine, at all times and seasons, the health, or morbid condition, of the human body (10). What those causes were that, in the estimation of the Pastophori, possessed sufficient morbid influence to excite intemperies of the fluids, little information has reached posterity; it has not escaped knowledge, however, that one of the great sources of this disorder, and consequently of many diseases, was alleged by them to consist in an imperfect, or undue digestion, of the aliments*.—If the doctrine of what may be

on the monad, or Ethereal Fire, which formed, preserved, and presided over, the universe. (id. *ibid.*) It was also given by Hippocrates, and his followers, to the animating principle of man, or the spark of Ethereal Fire that directed, or governed, the human body.

* The medical institutes of Pythagoras were partly Therapeutical, partly Dietetical. Under the last, as in modern times, was comprehended not only the regulation of diet, but also rules regarding exercise, labour, sleeping and waking, &c. see a full exposition of his principles in Bruck. (T. I. 1035, -94, -97.) There can be no question that the whole of what he thus delivered was derived from the Pastophori.

stiled the Elementary Homoiomeria (11) maintained by Empedocles, be esteemed, as there is reason to believe, of Egyptian extract, it may contribute to throw some additional light on this supposed origin of distempers, as well as serve further to illustrate the nearness of connection subsisting betwixt the first tenets of pathology, and the earliest system of physics, in Egypt.

When the sages of Africa took a general survey of the various substances observed to compose the lower world, their continual fluctuation and changes could not fail to excite attention. All material existences were seen to be in a state of continual flux, and revolution; what acted on the eye, or ear, yesterday, was no longer the same with what excited vision, or sound, to-day; the species of things might continue permanent, but individuals were doomed to experience never ceasing destruction, and decay. What was thus asserted, of the inanimate part of creation, was to hold no less true of that portion of it endowed with vitality. The particles of matter that composed the human body were equally fluctuating with those that constituted other corporeal existences. The former, no less than the latter, were observed to be actuated by incessant change; and the identity of our frame could not be, for a single moment, preserved. In order to repair the waste that was thus without

ceasing to consume us, external agency became necessary; the lost elements must be restored, from without, and the great agent provided by nature, for this purpose, was a regular, and constant supply, of food, or aliment. When examined in its anatomical details, the human body was readily perceived to be made up of many, and dissimilar parts, and the distinctions observable amongst them were, fairly enough, imputed to the different combinations of elements out of which they had been originally composed*. Each individual portion was liable to incessant waste, each therefore must be continually renovated, or restored, by the mediation of food. But the aliment as it entered the body, though containing, substantially, all the necessary ingredients, could be regarded as nothing more than a mere bundle, or aggregate, of elements and qualities, and required previous resolution into its ultimate particles, ere it became fitted to repair the deficiencies constantly sustained, by the varying departments of the animal fabric. To account for this breaking down of the food, as well as its conversion into nutriment, what we are accustomed to express, at present, by the

* This we find distinctly maintained by Hippocrates (*Le Clerc Hist. de la Med.* p. 116, 117,) and, after him, by Plato, (*ib.* 263.) From the last it was copied by succeeding philosophers. To Plato it would not be the less acceptable, for having, as he knew, taken its origin in Egypt.

terms of digestion and assimilation, there was invented by the Egyptian priests the physiological tenet formerly mentioned under the name of the Elementary Homoimeria. As received into the stomach, the aliment was a mere chaotic mass, and it must be reduced within the bounds of order and harmony. With the view of explaining the consequent phenomena of nutrition, and growth, dietetic substances, by the laws of the Homoimeria, were not only to be resolved into their ultimate particles, but a strict appetency or attraction was to take place, according to their kinds, and in due proportion, betwixt these, and such as constituted the multifarious organs of our frame, till identical elements and qualities being combined, or assimilated together, and the new being duly blended with the old, the original integrity of the whole, continually destined to suffer diminution, should also be unceasingly renewed. This important function was highly worthy the attention of the Ethereal Spark, or Intelligent Principle, constantly watching over the Microcosm of man. When duly performed, health she knew, was insured to the individual, but if neglected, or inadequately accomplished, the most baleful consequences were to follow. In other words, the food not being duly assimilated, the balance of elements, and qualities, on which sanity depended, was lost, and there arose

that humoral intemperies assigned by them as the proximate cause of almost all diseases *.

The great indications of cure, to be suggested by such pathological tenets, are sufficiently manifest. Nature, or the Celestial Fire, was to be assisted in the execution of what was continually necessary for the body, the due fulfilment of the Homoioimeria, or the performance of those functions, the modern physiologist is accustomed to express under the terms of digestion, and assimilation, and this was to be chiefly effected by a judicious choice of aliments †. If the most skilful

* The words of Herodotus containing this pathological tenet of the Pastophori “*νομιζοῦσις ἀπὸ τῶν τροφῶν σωματικῶν πᾶσι τοῖς νοσοῦσι γίνεσθαι*,” are very properly rendered by Beloe in the following manner, “being persuaded that the diseases of the body are occasioned by the *different elements received as food*.”

† By this exclusive attention to the Homoioimeria may we perhaps explain an Egyptian medical precept preserved by Isocrates, that no medicine was to be given which might not be swallowed, with as little danger or disturbance, as our ordinary food. (Isoc. in Busir. p. 329.) The early Greeks, who borrowed their physic from the Pastophori, pursued the same mild plan of administration, as appears clearly, from such fragments as remain of their first philosophers. Even after the Grecian physic was framed into a regular system, by Hippocrates, the same gentle method was continued. The management of diet, or its regulation in point of quantity, or

selection proved abortive, entire abstinence, for a limited time, was to be enjoined; and if both measures failed, the corrupted humours were then finally to be ejected from the body*. In fulfilling this last purpose, a new medical doctrine was to arise. The dislodgement of the humours was not indiscriminately to be effected, at every epoch of the distemper, but was to be attempted, only at certain diurnal periods. The presiding power of the body was to give explicit warning when the vitiated fluids became ripe for evacuation, and the watchful, and patient Pastophorus, waiting for the accustomed signs, was to assist, not disturb, by his art, the skilful, and spontaneous efforts of nature. What those seasons were in which she was thus disposed to exhibit these salutary indications, to exert these beneficial influences, seems to have been determined, among the Egyptian priests, partly, by a sedulous, and useful attention to the known course of maladies, partly, by some now unintelligible speculations regarding the hidden, and mystic powers, of numbers†. Reasoning from both topics, it was maintained by the hierarchy, that during the currency of diseases, nature might be invariably observed to

quality, and time of administering, was the great mean of cure resorted to in many diseases, by the father of medicine. See Le Clerc (*Hist. de la Med.* p. 147.)

* Diod. Sic. L. I. 82. † Le Clerc *Hist. de la Med.* p. 92.

form her crises, or judgments, at times regulated by a certain arithmetical progression, and there thus may be traced to the Pastophori, the germ at least, of that celebrated double doctrine which asserted, at once, the maturation of the humours, and the existence of *critical days*, tenets, of which the first was to reign for more than twenty centuries in the schools of physic, and of which the second still continues to hold a place in the pathological belief of the modern physician*.

That in the volume of Hermes which treats professedly of diseases, a description had been rendered, by the priesthood, of the principal maladies incident to their country, little doubt can be entertained: but along with this treatise, has unfortunately perished all knowledge of Egyptian *Nosology*. In what manner they classified, or arranged, their distempers, hardly a single trace of intelligence remains. One solitary fact only on this subject has escaped the wreck of time, preserved by Aristotle, namely, that the

* That such double doctrine prevailed among the Pastophori, from whom, without doubt, the Greeks borrowed it, appears from an old Egyptian law recorded by Aristotle, (Polit. L. III. c. 15,) that no physician should purge, or move the humours, previous to the fourth day of the disorder, unless he chose to do so, at his own proper risk. The last part of the injunction shows, evidently, that this ordinance had been copied from the sacred books.

distinction of Acute and Chronic distempers was acknowledged among them, as well as taught by them, to their Grecian disciples, of the Ionic school. It appears further, that whatever superstitious tenets had been inculcated to the people, they themselves were not unacquainted with the genuine sources of many of their most dangerous maladies. Instead of the anger of the gods, their pestilential disorders were rightly imputed by them to a morbid principle in the air, generated by excessive heat, hence, to dissipate local contagion, was, not unskilfully, employed among them, the agitating flame of an ample heap of combustibles constructed not unlike a Grecian funeral pyre *. That the atmosphere occasionally contained, within it, a poison capable of inflicting on the body the most grievous maladies, was a piece of knowledge that seems early to have been imported from Africa, into Europe. The great philosopher of Agrigentum is said to have twice averted a pestilence from his country, on one occasion, by impeding the access of the Etesian winds through their passages in the mountains †, on another, by immitting into a stagnant river, so as to sweep off the source of its miasmata, the rapid currents of two adjoining

* Conring. de Hermet. Med. L. I. c. 11.

† Laert. L. VIII. Seg. 60.

streams *; expedients, without doubt, communicated, at least in their principle, either to himself, or his master, by their common teachers, the Egyptian hierarchy.

III. The unremitting zeal with which the founder of the Italic sect endeavoured to disseminate what he had learned in the East, among his scholars of Crotona, is sufficiently known, and had his poem on the virtues of plants †, with that of his disciple Empedocles on medicine ‡, escaped the wreck of ages, there would have been less reason to regret the loss sustained in the destruction of the *third* among the Hermetic volumes, that which is said to have treated particularly of *Pharmacy*, or, the *Materia Medica*. Notwithstanding the disappearance of these original documents, the outline, at least, of their doctrines, in one portion of this department, dietetics, has been copiously enough displayed, and its general scope I have endeavoured, lately, to explain. On what medical principles, however, it was defended, or in what manner an almost entire abstinence from animal food, particularly fish, as well as from several species of vegetables, was to effect the purposes for which it had been enjoined, no elucidation is left us, by the Greeks. Of the reasons alleged in

* Laert. L. VIII. Seg. 70. (Amsterdam ed. of 1692.)

† Plin. L. xxv. p. 5.

‡ Cels. L. I.

its support, perhaps, there is no great reason to lament the loss. Whatever they were, their futility has been sufficiently demonstrated by the experience of later ages, and it may be safely enough affirmed, that medicine, on this occasion, misled by its alliance with theology, was to derive its precepts, rather from the reveries of superstition, than any just, and well founded views, of the animal economy*.

* The fish proscribed by the priests of Egypt, to others, for no animal of this sort was permitted, as food, to themselves, (Herod. L. II. c. 37,) were chiefly such as are destitute of scales. Of this description, at least popularly speaking, are the various species of *Silurus*, or Sheat fish, found in the Nile; in which list may be set down the Arabian Schall, the same on which, it is supposed by De Pauw, that the sacred cats of Bubastus were fed, together with other two, stiled in Arabic, Karmouth and Bayatte, Saksate, or Hebede. As food, these fishes are all bad, and insipid, (Sonnin. vol. II. 246, and seq. Eng. transl.) and in forbidding their use, the hierarchy seems merely to have converted into a positive law, what must have already grown up into an usage. Besides this objection, another of these *Siluri*, if we believe report, is not a little dangerous. A wound from its breast-bone, (more accurately a sharp spine projecting in front of its pectoral fin,) has been known to prove suddenly fatal, one instance of which is mentioned by Hasselquist, as coming under his own knowledge, during his residence in Egypt. (Hasselq. Voy. 224.) According to the same authority, two other deleterious fishes are found in the Nile, the *Clupea Alosa*, the Sardaine of the French (ib. 225) and a *Tetraodon*, stiled *Fahaka* in Arabic. The flesh of the first

With regard to Egyptian Therapeutics, it may reasonably be inferred, from various notices still preserved in the Greek medical writers, as well as the laborious collection of Plinny, that the

occasions an intoxicating effect, the second, besides, when newly caught, stinging and raising pustules like nettles, operates, when received into the stomach, as a sudden poison. (ib.)*. Other fishes, on the other hand, held sacred among the Egyptians, and prohibited by the priesthood, are observed to be at once, abundantly sapid and wholesome, as the Oxyrinchus, or Pike of the Nile, (Sonnin. vol. II. 247,) what is now termed Kaschoue, the Perca Nikotica of Hasselquist, and by him described as large, and good, (Hasselq. 224,) in all probability, the Latos of the Greeks, held sacred by the Latopolitans; the Mugil Cephalus, from the roe of which *Botargo* is made, properly speaking, a native of the Mediterranean, though met with in the Nile; the Cyprinus Bymii of Forskal, termed by that intelligent traveller "*Sapidus*," in his list of Arabic, and Egyptian, fishes. (p. 71.) Sonnini with much probability conjectures this to be the *Lepidotus* of the Greeks, giving its name both to a city, and nome, of Egypt, since *Lepidotus* is described by Athenæus as of the Carp genus; above all, the Eel of the Nile, deified by the priests, as De Pauw supposes, because found unwholesome, but, in reality far from deserving the imputation, since it is now eaten, both by natives, and foreigners, without the

* In the translation of Hasselquist quoted above, a book I have not at present past me, I suspect strongly there is a triple error. In the first place, the *Clupea Alosa*, so far from being an unwholesome, is reckoned a delicate, fish; secondly, it is not the *Sardaine* (Sardine) of the French, but our *Shad*; and lastly, the *Sardine* of the French is our *Sprat*.

medicines employed by the Pastophori were neither few in number, nor deficient in activity. It may be gathered, from the same evidence, that their lists were also duly augmented from the stores of all the three kingdoms of nature. Vegetable substances, as happens to every country, more especially such as are semibarbarous, it must be supposed, constituted, of course, the most numerous class. No complete details of their kinds, or numbers, have been transmitted from ancient times, but it may be learned from Pliny, and the Greeks, and more indirectly from the books of Moses, that resins, whether pure or gummy, of a fluid or concrete form, together

mightest bad effects. (Sonnin. vol. II. 46.) To this list of safe and esculent fishes may be added several others, as mentioned by Hasselquist. (p. 224. and seq.) Notwithstanding these prohibitions, fish was by no means banished, as diet, from the tables of the Egyptians. Several were employed, as we learn from Herodotus, and these were preserved from spoiling by salting, probably with fossile salt, and drying in the sun. (Herod. L. II. c. 77.) A very considerable fishery was carried on in the lake Moeris, so ample as to furnish a large source of revenue to the Sovereign. (ib. 149.) What became of the fish taken; were they consumed in the country, or exported? The former opinion is rendered probable by what Diodorus asserts, (L. I. c. 43,) to which may be added the testimony of Moses, from whom it appears, that fish constituted a principal article of diet among the Israelites, during their residence in Egypt. (Numb. xi. 5.)

with acrid, and aromatic, plants, composed not the least active of the catalogue *.—The mineral substances used among them were, chiefly saline, and metallic. The salts were such as Egypt, from

* A tolerably large list of vegetable simples used by the Pastophori, will be found in Dioscorides, in some editions, with the Egyptian names annexed. Many of the native appellations are given likewise by Apuleius, and Pliny the younger. (Conring de Hermet. Med. 82.)

Among the acrids employed by this class of priests, the Squill or Sea Onion, may perhaps be reckoned the principal. This root formed an object of worship among the inhabitants of Pelusium, and Casium, because it was found serviceable in curing a particular disease endemic among them, and supposed to be inflicted by Typhon, the evil genius of Egypt. The first Greek who mentions the Squill as a remedy, and who frequently prescribed it, was the philosopher Epimenides, who flourished, according to Suidas, (p. 821,) so early as the thirtieth Olympiad. Pythagoras praises it highly, and recommends its infusion in vinegar, a formula still to be found in all the Pharmacopœias of Europe. (See Hall. Bib. Med. Prac. T. I. 21.) There can be no doubt that both Epimenides and Pythagoras derived their knowledge of this medicine from the same source, the priests of Egypt. The former wrote a treatise concerning it which is now lost. (Plin. L. XX.)

We learn from Herodotus, that it was the practice of the Egyptians, as a prophylactic measure, to cleanse out the intestinal tube, three days successively, each month, by means of vomits, and clysters. (L. II. 77.) What their emetics were, is not certainly known, but some notices have been

time immemorial, has been known to supply, soda, either pure, or in the forms of carbonate, or muriate, alike dug up from the lakes of Naucratis and Memphis, and not unfrequently, blended with nitrate of Ammonia *. The base of the last compound was also often had recourse to, among them, sometimes caustic, on other occasions, combined with the carbonic, and marine, acids. Alum too was employed, and its powers understood, both as they exist in its calcined state, and when still possessed of its water of chrystallisation. In the virtues of many metals, the Pastophori were likewise initiated, applied, as appears, externally only, and the oxydes of copper, lead, and

preserved of their laxatives, or purgatives. (Conring de Herm. Med. L. I. c. 2.) It is likely, that among other substances used as emetics, the Squill was employed, as it was afterwards by the Greeks, and is still, among the moderns, when infants or children are the patients. The Egyptians likewise extracted a great variety of oils from vegetables, and many of these possess a laxative quality, if taken in sufficient doses, as oil of Almonds, according to Paulus Ægineta, first known as a remedy in Egypt. (de Remed. L. VII. c. 20.) The Ricinus Commun. is indigenous alike to Egypt, and India, and its oil seems to have been used, time immemorial, as a purgative, in both countries.

* There is also often an addition of Sulphat of Soda, with a little Sulphat of Potash. (Sonnin. vol. II. 320, 321. Eng. transl.)

as is asserted, of silver, were to swell the list of their mineral remedies *.

Among the vegetable medicines administered by them, several may be perceived of foreign growth, and during the first ages, ere commerce was known to Egypt, her catalogue of simples derived from this kingdom of nature, must have been sufficiently scanty. This poverty of botanic production, must have unavoidably resulted from the peculiarities, of her soil, and climate. The indigenous flora of Egypt is by nature restricted to a few classes. In a region where are to be found neither Alpine heights, nor umbrageous forests, neither irriguous vallies, nor winding streams, neither perennial fountains, nor living

* For the mineral and chemical remedies of the old Egyptians, see Bergm. Treat. on Orig. of Chem. vol. III. Cull. transl. I may notice here a mistake of the learned author. He asserts that among other medicines in use, the ashes of *Cyperus Papyrus* were employed, as Caustics, by the Egyptian priesthood, a fact for which he quotes Dioscorides. On looking at the passage referred to, I find it only asserted that the ashes of *Papyrus* were useful in checking spreading ulcers, more especially those of the mouth. It is added, that the ashes of the plant, after it had been manufactured into paper, were still more efficacious, for the same purpose. These applications are by no means recommended as caustics by Dioscorides, a quality they certainly do not possess. (See Diosc. M. M. L. I. c. XV.)

lakes, numerous families of plants must, of necessity, be wanting, and the herbalist will seek in vain for such tribes as require, for their prosperous growth, incessant, but at the same time, moderate, supplies of heat and moisture, and which refuse to flourish except by the freshness of springs, pools, or rivers, on the acclivity, or summits of hills, or beneath the shade of groves. With all her boasted productions, Egypt must ever be regarded as nothing more than the most considerable of African Oases, like them destitute of rain, fertile merely by reason of the Nile *, and admitting, therefore, such plants only, as while they can brave the fury of an annual deluge, are of such hardy structure as to sustain, by turns, the excess of humidity, and dryness, and thrive alike, in an almost tropical desert, whether parched with aridity, or submersed in water †. It was

* Nile Pater

Te propter, nullos tellus tua postulat imbres,
Arida nec plures supplicat herba Jovi.

TIBULL.

† Egypt appears, annually, just a perfect sea, from the beginning of August, till the latter end of October. During the heats of Summer, again, or season of drowth, the only plants Hasselquist could perceive in this country, were Restharrow, and Succory. (Hassel. Voy. and Trav. to Lev. p. 451.)

the art, and industry, of man only, that could surmount, or remedy, these natural disadvantages; it was the skill of the gardener, and agriculturist, that was to bestow upon her that extraordinary fertility for which she is so much celebrated, in ancient times. Hence, the plants of Egypt have ever been more remarkable for their value, than their number, or variety, and will be found, with few exceptions, such only as by their intrinsic excellence, seemed likely to repay the pains of incessant culture, and irrigation. For increasing the stores of these estimable productions, however, the geographical position of Egypt was, above all others, happily calculated. Placed at the mutual confines of Asia, Africa, and Europe, she has, in every age, possessed an opportunity of acquiring whatever plants might be deemed of highest estimation, in each neighbouring region, and of naturalising to her soil, the choicest articles of vegetable origin, known to the three grand divisions of the ancient world. With what success she introduced into her territory such botanical treasures as are distinguished for medicinal efficacy, or how many she cultivated as indigenous, is not certainly known. It was the complaint of antiquity, however, that compared with Greece, her simples were both few in number, and too often wanting in those sensible qualities that indicate the high activity of a

medicament *. Notwithstanding this censure, in the lists of her *Materia Medica*, may be discerned one article, of such sovereign efficacy, as fairly to compensate for the inactivity of the rest. This was her celebrated *Nepenthe*, without doubt, the opium of later times. That the Egyptians were early instructed in the virtues of this drug, is learned from the testimony of Homer. According to the tale of the poet, its surpassing anodyne properties were first taught to the Greeks, by a princess of the Thebais, or Upper Egypt †, a district where the white poppy may be reasonably presumed to have been either a native, or early in-

* It appears from Dioscorides, that but a small portion of the vegetable *Materia Medica* was derived from the growth of Egypt. Theophrastus assures us, that with exception of the myrtle, hardly a single fragrant plant was to be found indigenous on the banks of the Nile. (Theoph. de caus. Plant. L. VI. c. 27.) After commerce had begun to flourish, however, which it did at a very early period, the catalogue of vegetable simples used in this country was abundantly ample. At the early age of at least eight hundred years before Christ, the powers and numbers of the medicinal vegetables reared in Egypt, are attested by Homer. (Od. L. IV.) In some copies of Dioscorides, as already remarked, are recited the Coptic names assigned by the Περσικῆς, in the sacred books, to the articles of this sort in the *Materia Medica* of Egypt, taken chiefly on the authority of Pamphilus, quoted by Galen. (L. VI. de Simpl.)

† Odyss. IV. vol. 221.

roduced, and which we certainly know, was, afterwards, destined to afford large annual supplies of its invaluable juice to almost every country of Europe *.

The administration of single remedies necessarily precedes that of such as are compounded, and however extensive may be esteemed the acquaintance of the Pastophori with the powers of the former, it was perhaps excelled by their knowledge of *Composition*, or their skill in Pharmacy. What extraordinary advances had been reached by the Egyptians, during early ages, in all chemical arts, is abundantly understood †, and

* For the excellency of the Thebaic opium we have the evidence of Prosper Alpinus. (*De Medic. Egypt.* p. 261.) Talking of the Poppies produced in this part of Egypt, he observes, “*Cæterisque omnibus facultate præstant.*”

† Among other proofs of this may be mentioned, the uncommon dexterity they certainly possessed in the processes for hardening metals. It may be doubted; if in modern times, any tool could be procured of sufficient temper to cut the bas reliefs in granite, and porphyry, still to be found in ancient Egypt. (*Bruce Trav.* vol. I. 132.) To the same purpose may be cited her early acquaintance with the three species of fermentation, the panary, vinous, and acetous. Thus the art of forming bread with leaven seems to have been known, time immemorial, among the people of Pharaoh, from whom without doubt, it was first learned by the Israelites. A similar assertion is no less true of the process

there is evidence to believe, that their proficiency in the operations of heat and mixture, was soon extended to the multifarious articles of their *Materia Medica*. The manipulations of the apothecary, with his distinguishing instrument the mortar, formed out of its best materials, the native marble, and porphyry, of Egypt, may be said to have taken their first origin among its priesthood, and the pharmaceutic forms of the *Infusion* and *Decoction*, the *Extract* and the *Mixture*, were to augment, or vary, the original virtues of their indigenous, or imported remedies. Some of their compound medicaments, intended for external use, may perhaps boast a still higher antiquity. The peculiar shape and feature imposed upon the anatomical, and practical, branches of our art, in Egypt, by their ancient union with theology, have already been amply illustrated; the same pristine alliance was to produce effects no less

for making wine, not only from the juice of grapes, but from that of the date palm, (*Phoenix Dactylifera*,) as well as beer, or ale, from the wort of barley. The fermented liquor of the Palm, as already noticed, is the *Σικερα* of the Seventy, and *Sicera* of St. Jerome, in our version of the Old Testament, generally rendered *Strong drink*; that of barley is the *Zythum* of the Greeks, and the *Buza* of Forskal, and other modern travellers. (Forsk. *Flor. Egypto. Arab.* p. 53.) As for vinegar, it is often mentioned by Moses, and the Israelites, without doubt, learned both its use, and mode of preparation, from the Egyptians.

remarkable on its Pharmacy. In this last department, some of the first essays will be found to have derived their existence, not from a medical, but a religious source, and to have been exerted in framing compositions, not contrived, with the more humble scope, of ministering to the diseases of men, but intended for the more exalted purpose, of appeasing, or honouring, the divinity. In fact, the three formulæ known to the Pharmacopolist under the names of *Liniment*, *Plaster*, and *Ointment*, seem, clearly enough, deducible from a religious rite, practised not only over the East, but with few exceptions, in most tropical regions of the world. Described under its most simple form, this rite may be said to have consisted merely in rubbing over, or smearing, the shrines, or images, of the deity, with some oleaginous material. With other modes of worship, it may be readily traced to the same grand principle, whence have flowed so many observances of religion, namely, the presumptuous and vain attempt to assimilate the necessities, or inclinations, of the godhead, with the wants and desires of men; nor may it be difficult to perceive, how this dominant principle of superstition was to operate, in the present instance. Under the heat of tropical climes, men are continually wasted by an excessive discharge from the skin, and the expedient of checking inordinate perspiration, by means of some oily fluid brought into contact

with its pores, is observed to be known, and practised, by the most simple nations. What was found thus salutary to men, was soon to be esteemed, in its nature, no less beneficial to the gods. The body of the deity, like that of mortals, might be supposed to suffer from the intensity of heat, and his comfort, or strength, was to be preserved by the same contrivance found successful among his votaries. Thus, by an easy analogy, devotion might be taught to smear over the various emblems of divinity with some greasy liquid, or compound, and a new rite would thus be added to the former observances of superstition. Of this species of worship, perhaps, the oldest example on record may be traced to the patriarch Jacob, at the time, when in Padan-Aram, he poured oil on the summit of the stone of Bethel, or shrine of God, an observance not unlikely to have been learned, during his abode in Egypt. In this last country, it was soon to experience some farther degree of improvement. The favoured climates of the East have ever been known to produce, not only such vegetables as exhibit the fairest forms, and most brilliant dyes, but such likewise as are distinguished by the most exquisite odours. The delightful fragrance of these substances, so grateful to the sense of smelling in man, by superstition, was to be regarded as no less pleasing to the nostrils of the deity, and burning perfumes in his honour may be reckoned

one of the most ancient services of the altar *. For this hallowed purpose, the neighbouring Arabia, and the farther India, were alike to supply the priests of Egypt with their choicest spices, or aromatics. But the form of vapour into which these precious articles were converted, by means of fire, was transitory, and expensive, and it became the ingenuity of the priesthood to devise some other method of rendering their agreeable

* It is probable, at first, single aromatics would be burned in honour of the deity, afterwards combinations of the same substances. Belonging to the last class, one of the most remarkable was the Kuphi, consisting of no less than sixteen ingredients, and inflamed, each night, to the setting Sun, in the temple of Vulcan, at Memphis. Plutarch has preserved the recipe, and adds, that in making it up, the compounder was obliged to follow strictly the letter of the sacred books. (De Is. and Osir. c. 81. Squire's edit.) Like other priestly compositions, this preparation was used medicinally, sometimes as a laxative, sometimes as a remedy against asthma. In this last instance, it is probable its vapour would be inhaled by the patient, and a practice not dissimilar, it is said, has been found useful in modern times. (Murr. apparatus. Med. T. I. p. 23.) The Kuphi, besides Myrrh and Bitumen, contained a quantity of *πριον*, probably turpentine, or resin of fir; (see Diosc. L. I. c. 29;) and some phthisical patients are reported to have received singular benefit by inhaling, accidentally, the fumes of sealing wax. A Troche containing many of the ingredients, and bearing the name of Kuphi, was prescribed frequently at Rome by Damocrates a celebrated Physician of the Augustan age, and is commended by Galen. This form, the Trochisci Kypheos Damocratis, long occupied a place in all the pharmacopœias of Europe.

exhalations of more permanent duration. An expedient, for this purpose, readily presented itself in combining them with the fixed oils which they knew how to extract, from so many vegetables, and the forms of the *Ointment*, the *Lini-ment*, and the *Plaster*, perhaps the oldest pharmaceutical compounds known to mankind, were thus to derive their origin, not from the medical practice, but the religious services of Egypt. To give due consistence to this last preparation, the metallic oxyds were had recourse to, and the drying qualities these substances are known to exert over the insipid oils, may be ranked, among the chemical facts, discovered by her learned hierarchy. What was at first intended for a devotional, solely, was soon extended to a medical purpose. In a country where the priests were the first physicians, and the temples of the deity the earliest hospitals of the sick, nothing is more easy than to conceive such transition, in the uses of these sacerdotal compounds. The hierarchy of Egypt, combining the duties of physic, with the services of the altar, were, speedily, to seek an acquaintance with such medicines as might be of real service, in the diseases against which they were invoked for aid; and what more likely to become the first subject of their experiments, than such drugs as were continually in their hands, during the exercise of their sacred functions? In this supplementary employment, the

labours of the priesthood, as already found, were not long to be exerted in vain, and posterity has sufficiently sanctioned the virtues ascribed to these preparations, by the old Pastophori. A new use; it may be incidentally remarked, was during the same early ages, to be derived from these sacred compositions, one destined long to flourish, and even to subsist at the present day.—Like other governments of the East, that of Egypt was a pure theocracy, the altar was paramount to the throne, and the sovereign was to derive much of the rank and dignity he enjoyed, from what only the hierarchy had to bestow, the application, to some portion of his body, of the perfumed unguent otherwise appropriated solely to the use of the divinity, or of his servants (12). This practice of consecrating, by means of a fragrant ointment, both the members of the priesthood, and the chief magistrate of the state, was to descend from the Egyptians to the Hebrews, and its exact pharmaceutical mixture was to be carefully provided for by the great legislator of the Jews *. From Jewish it has passed down to

* A variety of such compositions, contrived by the Egyptians, are recited by Dioscorides, and Galen; as the Unguent. Metopion, so named, because the tree which yielded its principal ingredient, Galbanum, was stiled Metopion by the Pastophori, (Diosc. L. I. c. 71,) and Mendesium, so stiled from the city Mendes. (ib. 72.) Galen enumerates various ointments and plasters, some distinguished by the appellation

Christian lawgivers, and as by the base flattery of men, kings have, in every age, been likened to the gods, the custom of anointing with holy oil, the head of royalty, still practised in all the different countries of civilised Europe; though, at its origin, allotted only to the shrine, or images, of the deity, may thus be clearly enough deduced from the ancient despotism, and superstition, of Egypt.

of Isis, others denominated Sacred. Several of these were copied from the Archives of the temple of Vulcan, at Memphis. (*Gal. L. V. de Medic. compos. secund. gener. c. 1.*) To the same list may be added the Oil and White Oil, the Ointment and White Ointment of Egypt, quoted by Hippocrates. An unguent formed by the Pastophori, of Myrrh, Cinnamon, and other ingredients, is also described by Theophrastus, probably that of which the holy anointing oil of Moses was a copy. In this last conjecture no reflection is intended against the divine inspiration of the Old Testament. Whoever examines, with attention, the ritual of Moses, as detailed in the books of Exodus, Leviticus, and Deuteronomy, cannot but observe the exact resemblance betwixt the ceremonies there inculcated and many of those practised among pagan nations, such as those described by the classic writers of Greece and Rome; while others appear no less evidently of Egyptian extract; and there is no impiety in supposing that both sets of observances, were permitted, by divine wisdom, to the Jews, out of compassion for the known rudeness, and rooted prejudices of that people, at the time they made their escape from the tyranny of Pharaoh. (See this coincidence of rites illustrated at great length, by Spencer in his two folio volumes, *de Leg. Hebræor. Ritual.* and more shortly, by Marsham, in his *Chron. Canon.*)

As remedies for the cure of diseases, the forms of ointment, plaster, and liniment, appear to have been in great repute among the Pastophori, and the ingredients of many of them, together with their mode of preparation, are still found recorded in the volumes of the three great *Materia Medica* writers of antiquity, Theophrastus, Dioscorides, and Galen. The practice of their first Grecian pupils of the Italic school, who are known to have acted as physicians or surgeons, and, in all probability, pursued such methods as they had been taught in Egypt, is observed to have been equally mild, and to have dealt freely in similar medicaments.

IV. The next part of medicine, among the Egyptians, that claims attention, is their *Surgery*. To supply the loss of the book of Hermes, on this subject, no intelligence, at least so far as my information reaches, is to be gathered from the Greeks. Though it be an unquestionable fact, that long previous to the birth of Hippocrates, much knowledge in this branch was familiar to the latter people, yet that any portion of it had been imparted to them by the Pastophori, there exists no evidence to believe. The family, or more properly speaking, the tribe of the Asclepiades, alike the descendants, and priests of Esculapius, must be esteemed the real founders of surgery in the Grecian world, and the maturity

of their attainments, in this species of healing, will be found truly worthy admiration. At the remote æra of five centuries before Christ, this order of men, in their schools of Cos and Cnidus, appear not only to have contrived various chirological instruments of complex mechanism, but to have ventured on some of the boldest, and most difficult operations of surgery, such as lithotomy, excision of the dead fœtus, perforation of the cranium, or trepanning, together with paracentesis of the abdomen, and thorax. Though the fourth book of the Pastophori be formally entitled *Περὶ Ὀργάνων*, or of machines, or instruments necessary for the surgeon, yet that those employed by the Asclepiades, any more than their manipulations, were in whole, or in part, borrowed from the Pastophori, as already remarked, there is no evidence for asserting, and I am not willing to rob of their due merits, the priests of Esculapius, in favour of those who ministered at the shrine of Isis, or the Theban Jupiter. On the contrary, several circumstances may serve to induce the belief, that in that branch of our art which professes to heal, by external applications, and manual dexterity, the skill of the Egyptians was, in reality, far inferior to that of the Asiatic Greeks. As one proof, in favour of this assertion, may be mentioned the less frequent use both of animal aliment, and of animal sacrifice, among the former, than the latter people, withdrawing

thus, from the first, what were formerly remarked to be the two earliest, as well as principal, sources, of anatomical knowledge among mankind. Another cause operating, it may be supposed, to the same effect, was the almost continual state of peace enjoyed by the Egyptian nation *.

War during early times, is the true school of the surgeon, and wounds received in battle, his most faithful instructors, both to teach him the secrets of his art, and to bring him acquainted with his best assistant, an intimate knowledge in the intricacies of his own frame. Besides, to fit them for the incessant warfare in which they were engaged, the Greeks were regularly trained to a variety of martial exercises, such as, by the accidents they gave birth to, could not fail of proving a fertile source of surgical experience. No such institutions of education prevailed in Egypt †. In the treatment of bruises, fractures,

* Such, it is likely, might be the reason, that notwithstanding the infinity of gods adored in Egypt, no hero, was found by Herodotus, in the lists of their theogony. (Herod. L. II. 50.) A state of perpetual peace is incompatible with the production of heroes.

† The only exception to this remark was in Chemmis, a city of the Thebais. Here was erected a temple to Perseus, and all the gymnastic exercises of Greece celebrated in his honour. It was asserted, by the people of Chemmis, that Perseus was their fellow-citizen, and had migrated thence into Greece. (Herod. L. II. 91.)

and dislocations, never failing concomitants of the Grecian sacred games, necessity, and practice, would soon produce expertness, and it will be afterwards shown, when the course of this work leads us to consider the medicine of Europe, that the practitioners, whose public function it was to repair, by their skill, the injuries commonly sustained, during the contests of the Stadium and Hippodrome, have been deservedly celebrated as some of the earliest, as well as principal improvers of surgery, in the Grecian world *. The following notices from Herodotus may serve to confirm the general tenor of these remarks. From the historian, it appears, that after the subjugation of Egypt by Cambyzes, the superiority of her medical practitioners over those of Persia, was so

* Two classes of surgical practitioners usually attended the Gymnasia of the Greeks, the *Gymnastici*, and *Aliptæ*. The latter were of inferior rank, and their principal business was friction, or to rub over the combatants with oil, a necessary expedient to prevent inordinate perspiration, from violent exercise, in so warm a climate as Greece. Occasionally, however, the *Aliptæ* undertook the reduction of dislocations, and the cure of wounds, though more properly belonging to the *Gymnastici*. (Hall. Bib. Chir. T. I. 6.) By degrees, as will appear afterwards, the frictions and exercises, practised in the Gymnasium, came to be employed, formally, among the Greeks, for the cure of diseases: hence the origin of the *Iatroliptic*, and *Gymnastic* medicine, both of which first rose into repute under the auspices of Herodicus, surnamed, from that circumstance, the *Gymnastic*.

completely acknowledged, that it became customary to retain, at the court of the great king, a band of medical attendants derived from the conquered provinces of the Nile. Of these, the skill in surgery is reported to have been put to the test, as well as contrasted with that of the early Greeks, on a sufficiently memorable occasion. The reigning emperor, Darius Hystaspes, having dislocated his ankle, by an accident in hunting, and having, in vain, sought relief from his Egyptian practitioners of the palace, if we believe Herodotus, was readily cured of the ailment, by the superior, though compulsory knowledge, of Democedes of Crotona, at that time, an accidental prisoner in the capital of Persia*.

* Notwithstanding the positive assertion of Herodotus, expressed in the words "*ὁ γὰρ οἱ ἀστέγαλος ἐκχάρησε ἐν τῶν ἀστέγων*," it is impossible to believe the accident of Darius to have been a real dislocation. This appears from the context. The successful remedies, we are told, employed by Democedes, consisted in the application of mere soothing medicaments; but, it is evident, no soothing medicament could ever have replaced the bones, had the tibia been, actually wrested, from its articulation in the astragalus. (Herod. L. III. 130.) According to the fashion of eastern despotism, the unfortunate Egyptian physicians were condemned to death, for their want of skill, but were saved, at the intercession of the Greek practitioner.—A narrative, in many respects, similar to this story of Democedes, is recorded in the modern annals of China. During the year 1693, the reigning emperor, the celebrated Cang-hi, happened to be seized with a tertian ague.

The removal of a wide spreading ulcer seated on the breast of his empress Atossa, the daughter of the great Cyrus, was, as we learn from the same authority, also to swell the fortune, and to attest the unrivalled skill of the same early Greek.

The disease not yielding readily, an edict was forthwith issued, commanding every person who knew a remedy for the disorder to communicate his secret, and also, for all individuals who laboured under the same malady, instantly to repair to court. At this time, the Jesuit missionaries Visdelou, and Fontenay, (the former so highly celebrated for his proficiency in Chinese literature,) happened to be on the spot, as well as in possession of a quantity of Peruvian bark, lately procured by them, from Pondicherry. The remedy was, without delay, presented to the emperor. At first, Cang-hi was afraid to take it, and to remove his scruples, it was administered, under his eye, to three Chinese affected with intermittents, whom, as usual, it restored to health. Still, however, the imperial patient hesitated, and could not be persuaded to try the new remedy, till he had previously seen it safely swallowed, in large quantities, not only by his own son, but four of the principal grandees of his court. He was then persuaded to venture upon it himself, and speedily experienced from it the accustomed benefit. A cure being now completed, his anger, like that of Darius, was next turned against the unhappy physicians of his palace. Three of these, accordingly, by his orders, being brought before a special tribunal of Mandarins, were condemned to death, though the sentence was afterwards mitigated into banishment. (*Lettr. Edif. et Cur. T. XVII. 306—310.*) It is not uninteresting to trace, in this manner the coincident effects of eastern despotism thus exhibited to view, at the two extremes of Asia, and at the distance of more than twenty centuries.

In reciting this story as an instance of surgical deficiency chargeable on Egypt, I am not unaware of an objection that may readily occur to the reader. The obligations in point of medical instruction for which the founders of the Italic sect were indebted to the Pastophori, as already stated, were numerous and considerable, and it is possible that their precepts of healing descending through successive teachers to Democedes, might have originally sprung from the superior knowledge of the Egyptian hierarchy. Yielding all due weight to this consideration, as well as making every reasonable allowance for the vanity of Grecian narrative, it may yet be safely enough asserted that the Greeks at a very early age, had begun at least to *improve* the arts of the Barbarians, and that if most inventions took their rise amidst the opulence and despotism of the East, it was the genius and unfettered spirit of Europe only that could conduct them to advancement, or perfection.

V. Of the fifth book of the Pastophori, entitled by them, "Of the Eyes," still less is known, than concerning their volume on surgery. The speculations, as well as practice, of these ancient sages, regarding such diseases of the organ of vision, as from the nature of the country, must have, in all periods, been endemial to Egypt, would, at least, be sufficiently curious, and, at present might

not be entirely without their use. The soil of Egypt has already been, and is not unlikely to prove again, the field of contest betwixt two of the greatest nations of the globe, and to the madness and calamities of war, have been added, not only the evils of this indigenous malady, but of many other still more fatal distempers, incident, as is well known, to the valley of the Nile.—To trace the different expedients that may have, from time to time, been devised against the formidable ophthalmias of Egypt, and to compare the resources of physic, concentrated on a single point, for more than five-and-twenty centuries, might prove an employment neither uninteresting, nor unsuitable, to the medical antiquary. For such inquiries, unfortunately, no proper documents remain. To the old Pastophorus, in this branch of healing, nothing now survives but his ancient reputation. The vigour of this is sufficiently attested by Grecian evidence, and however he might be supposed to suffer, in a comparison with the enlightened practitioner of Gaul, and Britain, yet in all disorders of the eyes, he will be found, during his own age at least, to have enjoyed without a rival, the universal confidence of the East*. So celebrated for skill in such maladies was his tribe, that the present of an Egyptian

* See Herod. L. III. c. I.

Oculist was deemed an offering fit for one sovereign, to bestow on another, and this honourable reputation appears to have subsisted, without abatement, till such time as medicine, cultivated by the genius of Greece, had among other improvements, acquired greater proficiency in the treatment of ocular diseases than was ever destined to arise from the native efforts of the primeval Chersonese.

NOTES.

(1) See the natural defences of Egypt well described by Diodorus Sic. L. I. 30, 31. The part of the Mediterranean surrounding it on the north is described, in the same author, by the appropriate epithet of ἀλμίνος, importuosus, harbourless. (ib. 31.) Alexandria, he adds, was the only accessible port. To this account may be subjoined still more ancient testimony. In a former note, I had occasion to illustrate, at considerable length, the affinity, or rather identity of the Egyptian, and Hindu tribes, and among other proofs, from similarity of language. In Sanscrit, the name of the country is Agypta, and of her river Nila. Agypta, whence is evidently derived the Greek Egyptos, in the Indian dialect, signifies literally “On all sides guarded,” no bad description of primeval Egypt. (Asiat. Res. vol. III. 304.) It may be further noticed on this subject, that during early times, the Egyptians appear to have been extremely jealous of foreigners. By an old law, no vessel was permitted to enter Egypt, except by the port Naucratis, situated on the Canopic branch of the Nile. (Herod. L. II. 179. Diod. Sic. L. I. 67.) A similar regulation, from a like motive, at present prevails in Japan. All foreign vessels are forbidden to approach that island, except by the port Nagasaki. (Thunb. Trav. vol. III. 233.)

(2) The hereditary *Military Cast* of Egypt appears to have consisted of two tribes, named by Herodotus Καλασιῆς, and Ἑρμωῖτες, Calasirians, and Hermotybians. They had sixteen Nomes, or Prefectures, allotted for their maintenance,

besides some other smaller districts. According to the same authority, their number was enormous, amounting to more than four hundred thousand men. (Herod. II. 164, 165, 166.) One thousand was, every year, selected from each tribe, to act as guards of the palace. Whilst on this service, each man besides his hereditary advantages, had a daily allowance of five pounds of bread, two of beef, with four arusteres of wine, nearly equal to as many pints. (ib. 168.) Among all the inquiries made by Herodotus, into the history of Egypt, it was never hinted by the priests, that the country, at any time, with one exception, (L. II. 147,) had ever been under the government of more than a single individual. Taken in its utmost extent, the fact is altogether improbable, but it may be very fairly adduced to prove the very ancient date of undivided monarchy on the banks of the Nile. Even during the fabulous reign of the gods, Egypt is never said to have been ruled by more than one deity. (ib. 144.) The undivided sway of the Egyptian sovereign seems strongly countenanced by the evidence of Moses. (Gen. XLI. 41, 43, 45, 46, 55. xlvii. 20. and Exod. passim.)

(3) For a dreadful account of the Endemics, and Epidemics, of Egypt, see *Voy. de l' Egypt par Granger* p. 19, 20, 21, 25. However prevalent afterwards, such diseases must have been even more frequent, during primitive ages. It was the tradition of the priests in the days of Herodotus, that during the reign of their first king Meines, the whole of Egypt was a marsh, with the exception only of the Theban Nome, or Prefecture. (Herod. L. II. 4.) For the same reason, it was, that the name Egypt was at first restricted solely to the territory of Thebes. (ib. 15.) For the more ancient population, as well as the earlier civilisation of Thebes, see also *Diod. Sic. L. I. 50.* The old Indian records agree with this report of Herodotus. In the Purans, the Delta is stiled Aranya and Atavi, or the forests;

Atavi, imperious, Aranya, uninhabited, but practicable. (Wilford Treat. on Egypt and Nile in As. Res. vol. III.)

Egypt and Ethiopia, indeed, may be reckoned the primeval source, or native soil, of some of the most malignant, and fatal diseases that have ever abridged the lives of mankind. The famous plague of Athens, so eloquently described by Thucydides, and in poetical language, afterwards by Lucretius, took its origin from this quarter, and the same assertion is true of the still more dreadful pestilence which broke out, at Constantinople, during the sixth century, in the reign of Justinian, and which in its fearful course of fifty-two years, is said to have ravaged the whole earth, and to have swept away, in conjunction with the wars of the time, if we believe Gibbon, a full moiety of the whole Roman empire. The *Small Pox*, and *Measles*, likewise, which often act as real plagues, particularly the first, there is sufficient evidence to believe, derived their origin from the same countries. Both of them appear to have been brought from the East to Europe, during the æra of the Crusades. (Mead on Plague Part. I. ch. 1.) Every body knows the present ravages of the plague, in Egypt. During four of the years in which Mr. Baldwin resided, as British envoy, in that country, there perished, from this cause, more than a million of the inhabitants. (Baldw. Polit. Recoll. relative to Egypt.)

(4) Numerous patients used to sleep in the temples, both of Isis and Serapis, in order to be admonished, by the respective divinity, in dreams, concerning the proper modes of curing their distempers. (Strabo L. XVII.) These admonitions, of course, would be dictated by the priesthood, and to preserve the credit of the deity, some degree of medical knowledge would become absolutely necessary. So late as the time of Vespasian, this practice was frequent in the heathen world, and that Emperor, as we learn from Suetonius and Tacitus, had recourse to it, during a disease with which he

was affected in Egypt. It may be gathered from Herodotus, that the sacerdotal records of Egyptian diseases extended to a very remote antiquity. (L. II. 142.) That the recital kept in the temples of this kingdom, both regarding the disease itself, and the means of cure employed, was very full and exact, is learned from Galen. (Gal. de Comp. Med. L. V. c. 2.)

(5) Numberless accounts have been delivered of Hermes. According to Diodorus, he was Secretary, Hierogrammatist, or sacred scribe, to King Osiris, (Diod. Sic. L. I. 16,) in the same manner as Tse-Hoang, or Toang-hie, the inventor of Chinese letters, is said to have occupied a similar place, under the Emperor Hoang-ti. (Gog. Extr. from Chin. Hist. Eng. transl. p. 306.) In reality, it seems useless to search into the history of this personage, or even into the question whether he were a real, or suppositious, character. That the books imputed to him, and which bear his name, were the works either of him, or any other individual, cannot be, for a moment, supposed. They were undoubtedly the joint production of the whole body of Egyptian priesthood, and that too, during a long succession of ages. This may be readily inferred, both from the nature of the thing, and the positive assertion of Jamblichus, who informs us, it was the constant custom, in Egypt, for each writer among the hierarchy, to father his compositions upon Hermes. (See Le Clerc Hist. de la Med. p. 13.) Such appears to be the only true view of what has been termed Egyptian learning. A singular mode of reasoning has been employed, on this subject, by Conring, and Brucker. Not aware that the name of Hermetic, affixed to the whole compositions of the priesthood, was a mere pretext to insure them currency, or a sacred character among the multitude, and finding the whole history of the legislator involved in fable and absurdity, they thence take upon themselves to deny the actual progress, of his countrymen in arts and

sciences. Another motive actuated Conring, in this dispute. Being a zealous Galenist, and observing his adversaries Paracelsus and the Chemists, rating the Egyptian proficiency in science ridiculously high, as pretending to draw their own doctrines from that source, he was naturally led to estimate, too lightly, the progress of knowledge on the banks of the Nile.—With respect to physic, I am by no means disposed to assert that it had reached such perfection as seems indicated by the methodical distribution of its parts, in the volumes entitled *Hermetic*, at the supposed early age of Osiris, yet there appears no reason to doubt that it had attained such proficiency long prior to the termination of our present period, that is, the rise of letters and philosophy, in Greece. Though the inhabitants of this last country soon excelled the Egyptians in medicine, as well as in other arts, yet so late as the time of Plato, the *Pastophori* or medical division of the hierarchy, are found not altogether to have lost their former celebrity. Chrysippus the Cnidian, who is often copied by Erasistratus, as we learn from Galen, in more than one passage, accompanied the philosopher Eudoxus in his voyage to Egypt, in order to study medicine under the Egyptian priesthood.

(6) The *Pastophori* appear to have been a subordinate race of priests, whose principal function was to slay and offer up the victim, like the Greek *Κήρυκες*, and Latin *Popæ* and *Victimarii*. (Diod. Sic. L. I. 29.) They had also the care of the temples, like the *Νεωτάδοι* of the former people, and it was part of their business to show strangers the shrines, and other curiosities, of the edifice. (Horap. Hieroglyph. L. I. Clem. Alex. Pædag. L. III.) As for the name *Pastophori*, it is supposed by Wesseling, in his note to the above cited passage of Diodorus, to have been derived “a ferendis *παισσις*” from carrying the shrines of the divinities, at public processions, and festivals. Others again have contended that the appellation

arose from their wearing a particular robe, or garment.— Perhaps, it may not be difficult to perceive how the office of healing came to be engrossed by this class of the priesthood, in preference to the rest of their brethren. Being keepers of the temples, the sick who resorted there for aid, would naturally be induced to apply to them, in the first instance, and they would thus be called upon, more frequently than others, both to inspect the patient, and to prescribe a remedy. Use would give dexterity, and the upper ranks of the hierarchy might readily cede to them a province not necessary to their own importance, and consideration. That even the higher orders of the sacred colleges, however, interfered in the business of medicine, we have various proof. Plato and Euripides, during their residence in Egypt, were both cured of a fit of illness by such. A plaster is quoted by Galen employed in his practice by the *ἱερογραμματὴς* Hermion, and by him extracted from the archives of the temple of Vulcan, at Memphis. Gal. L. V. de Med. Sec. gener. The *ἱερογραμματὴς*, Hierogrammatist, or sacred scribe, was, at all times, one of the highest in rank among the Egyptian Ecclesiastics. The same thing may be said of the Prophetæ, by whom both Euripides and Plato were cured, during their stay in Egypt. (See Laert. L. III. in vita Platon.)

(7) Among the sources of anatomical knowledge to Egypt has commonly been enumerated the ancient custom, in that country, of embalming the bodies of the dead. This source I have omitted, in conformity to a remark of Goguet inserted in his “*Origin des Arts*,” though I know not if I have done so on sufficient grounds. In his description of the process, two circumstances are mentioned by Diodorus, (L. I. 91,) one, that the incision for disembowelling was performed with an Ethiopian stone, the other, that so great was the hatred entertained against the operator, that after doing his business, he was compelled instantly to fly in order to escape the re-

sentment of the bye-standers. It is argued by Goguet, that it is impossible any knowledge in anatomy could have ever resulted from the use of so rude an instrument, or so hurried a dissection, or any acquaintance with the human fabric be attained by a people who persisted in so inartificial a proceeding. However plausible these remarks may appear, they must not be received without due qualification. It is possible that the employment of the Ethiopian stone might have been founded on ancient usage, since it is the very essence of superstition, to adhere, with the most pertinacious obstinacy, to established forms. A thousand instances might be given in proof of this assertion. So late as the time of Livy, in ratifying treaties among the Romans, it was customary to slay the victim (commonly a hog) by means of a sharp flint, certainly not for want of instruments constructed of brass, or iron. (Liv. L. I. in Tull. Hist.) Another example may be cited. At the general circumcision of the Israelites ordered by Joshua, after their arrival in the promised land, the operation was universally performed by means of a knife of stone, though it be well known, the Jews were abundantly skilled in all the common arts of metallurgy. In the Sept. it is expressly said “make thee *μαχαίρας πέτρinas ἐν πέτρᾳ ἀγροῦμου*. Jes. Nav. c. V. 3, no doubt, because the first, or original scalpel, for excision of the prepuce, had been constructed of stone.

(8) For the early existence of the elementary system, as well as its application to medicine, in Egypt, besides the indirect testimony of Plato, an enthusiast in Egyptian learning, (Bruck. Hist. Crit. Phil. T. I. 664, and alibi,) and who is believed to have borrowed his philosophy from the old pillars of Hermes, (Jamblich. de Myst. Egypt. c. II. p. 3. c. XVII. p. 29. Sect. VIII. c. 1. p. 157,) that is, from tenets taught, time out of mind, by the priests of Heliopolis, we possess much, and various evidence. In

proof of the first of these points, see Plut. de Is. and Osir. c. 36, 39, 40, 63. Diod. Sic. L. I. c. 11, 12. Senec. Nat. Quæst. L. III. c. 14. That out of the popular system of physics, in Egypt, was framed by the Pastophori, the first regular theory of medicine, see Plut. de Is. and Osir. c. 33, 40, 43, 55. Stobæus L. I. Ecleg. Phys. 2. c. 35. Lactant. L. I. 2. Inst. c. 13; so also authority of Manetho in his Epitome of Egyptian physics, and that of Hecataeus in his first book of the philosophy of the same kingdom, both quoted by Laërtius in Procem. Seg. 10. That the body of man was considered by the old Egyptians as a Microcosm, formed of similar elements, and guided by the same laws, that constitute, and regulate, the universe at large, see Conring. de Herm. Med. 93, 94. Bruck. T. I. p. 1085. Nothing can be more precise than the testimony of this last author. Among the pythagoric doctrines enumerated by him, and learned from the priests of Thebes, we have the following; “Homo mundi compendium est, quia non tantum ex quatuor elementis constat, sed et omnes mundi virtutes continet; habet enim facultatem divinam, scilicet rationalem; habet naturam elementarem, nimirum vim nutritivam atque auctricem, suique productricem, at singulis tamen his inferiorem.”—And further, it is added, “Pars enim divina animæ ab æthere divina divulsa (quo nomine Pythagoram refutat Cicero) cum particula divinæ, quæ mundum penetrat animæ sit, rationalis necessario est, et pars ita ignis mundani, sive naturalis; reliquæ hominis partes ab elementis participant, de quibus infra dicemus.” Such in fact were the common doctrines of both schools, and of their founders, and successors, Thales and Anaximander, Pythagoras and Heraclitus, the Eleatics, &c. (ib. 923,) and by both, alike borrowed from Egypt. It is easy to trace the continuance of the same opinions through the successive pupils of Thales and Pythagoras, more especially the latter, in the fragments of their writings which have been luckily preserved. For the ground work of these

last, see the life of Pythagoras by Laërtius. (L. VIII. c. 25, 26.) What the founder of the Italic sect stiled "harmony," (ib. 33,) in which health was said to consist, was, evidently, nothing more than a proper mixture of elements, and qualities. A portion of the work of his disciple Alcmaëon expressly places health in a due crasis of the four elements, and qualities, disease, in their acrasia. (Le Clerc Hist. de la Med. 95.) See further what is said by the same compiler, concerning medicine, as cultivated by the early Grecian philosophers, and by Haller, on the same subject, in his different Bibliothecæ, viz. Anatom. Botanic. and Med. Practic.

The first European writer in medicine whose works have reached us, in any degree entire, is Hippocrates, and in his writings, we find a sufficiently full statement of the above theory. A distinct summary is given by Le Clerc. (Hist. de la Med. from p. 115, to p. 118.) In composing his system, Hippocrates had recourse chiefly to the physics of his own preceptor in philosophy, Heraclitus, founder of the sect bearing his name. According to Heraclitus, the Presiding Essence, or Soul of the World, was the subtle Fire or Ether, and a spark of it the internal guiding, and animating principle, of living bodies. He seems to have maintained also, though more obscurely, that the substance out of which all things were made, was water. (Bruck. Hist. Crit. Phil. T. I. 1220.) These doctrines were applied by him to medicine, for framing a system of physiology, and pathology. The formative, and conservative power of the human body, as already remarked, was the Etherial Fire, life again lay in the humours. (See Aristot. Prob. S. 11.) A specimen of the application of his physics to pathology, made by himself, is found among the Epist. Græc. Phil. collected by Aldus. It relates to a dropsy with which he himself was affected, and I have subjoined part of it, as translated by Stanley, in his Hist. of Philosophy. "I am fallen sick, Archidamas,

of a dropsie. Whatsoever is in us, if it get the dominion, it becomes a disease. Excess of *heat* is a fever, excess of *cold*, a palsie, excess of *wind*, cholick; my disease comes from excess of *moisture*. The soul is something divine that keeps all these in due proportion; the first thing is health, nature herself is health, we cannot foresee what is contrary to nature, but after that it happens. I know the nature of the world, I know that of man; I know diseases, I know health, I will cure myself, I will imitate God, (the Celestial Fire,) who makes equal the inequalities of the world, committing it to the sun.—In the universe *moist* things are dried up, *hot* things are made *cold*. My wisdom knoweth the ways of nature; it knows the cure of sickness, but if my body be overpressed, it must descend to the destined place, &c.”

The mode of cure practised by the philosopher, upon himself, is said to have been agreeable to these principles. In order to exhale the water of his dropsy, by the opposite element of heat, he used to lie many hours under heaps of horse-dung.—I am aware that the collection of Aldus, whence the above extract is taken, has been suspected by the learned; even granting it a forgery, however, it sufficiently demonstrates the opinion of antiquity concerning the tenets of Heraclitus. Whoever is at all acquainted with the Hippocratic writings, will readily perceive, how completely, the systematic part is founded on the doctrines of that philosopher. Thus, according to the father of medicine, a portion of the wise or intelligent fire residing within us, is to be regarded as the directing principle of the human body. This principle he, more usually, expresses under the name of *nature*. The importance ascribed by him to the fluid parts of our body, or the humours, in framing his system of physiology and pathology, is equally well known. See particularly, among other places, L. II. de Diæta, unquestionably the work of Hippocrates.

Both the physical, and medical, portion of the Hippocratic, and Heraclitean systems, it is easy to trace back to Egypt. That Ether, or pure Fire, constituted the soul of the universe, is proven, from many sources, to have been a fundamental tenet of Pythagoras. Among other authorities, see Laërt. L. VIII. Seg. 27. Cic. Tusc. Quæst. I. Bruck. Hist. Crit. Phil. T. I. 1077. Heraclitus therefore, undoubtedly, drew this part of his philosophy from his Pythagorean preceptors, Xenophanes, and Hippasus; (Bruck. ib. 1209;) they from Pythagoras, and he, from the priests of Thebes.

(9) That this doctrine took its origin in Egypt, appears evidently, besides other sources, from Plut. de Is. and Osir. c. 41. and 43. According to the sacred Cosmology of that kingdom, there existed a continual contest betwixt the principle of generation, or preservation, on the one hand, and that of corruption, or destruction, on the other. The first was commonly typified by the Nile, the source of moisture, or fecundity, the second by Typhon, the genius of aridity, and infecundity, whose dwelling-place was the desert, and whose mistress or concubine, was said to be Thueris, or the deadly Simeöm. (Jablonsk. Panth. Ægypt. T. III. L. V. c. 2, 3.) It was fabled by the priests, that though Orus or the Earth, the scene of this conflict, was disposed to wish that the benevolent principle of moisture (the element water) might prove constantly successful, yet she was unwilling that Typhon, (the element fire,) should be utterly destroyed, least moisture should too much predominate, and the due balance of the elements should be interrupted, or lost. That all terrestrial substances continually tended to decay, and of course, the bodies of animals, was a tenet inculcated by the priests of Egypt, see further Bruck. Hist. Crit. Phil. T. I. 302. All nature, it was maintained by the same authority, was alternately to perish, either by conflagration, or cataclysm, according as the element heat, or moisture predo-

minated, and was constantly to be renewed, a dogma embraced afterwards by the Stoicks. (id. ib.) For a full exposition of the identical laws of the Macrocosm, and Microcosm, or the strict analogies betwixt the body of the universe, and that of man, see Jul. Firmic. L. III. Mathes. quoted by Conring. de Hermet. Med. L. I. c. 10. According to hermetic belief, the human machine was doomed constantly to perish like other sublunary substances, by the excess of the element either of fire, or water. (ib.) Conformable to their other Egyptian tenets, the microcosmic nature of man was also adopted by the philosophers of the portico. (Enfield's Bruck. vol. I. 343.) And that the same opinion was Pythagorean, or Egyptian, see Cic. de Nat. Deor. L. I. c. 12. de Senect. c. 21. also Enfield ib. 394.

(10) This humoral physiology and pathology may have owed its origin too, in great measure, to the ancient physical dogma of Egypt, adopted by Thales, that all things were formed out of water. That such doctrine was indigenous to the banks of the Nile, see Arist. de Cælo. L. II. p. 127, Plut. de Is. and Osir. c. 34: for the expression of this doctrine in hieroglyphics, as well as the sacred rites, and theological opinions, to which it gave rise, first, in Egypt and afterwards in Greece, see last named writer, c. 13, 33, and notes in Squire's ed. of Greek text of c. 24.—Long before the rise either of the Ionic, or Italic sects, the same tenet was brought into Greece by Homer, and the author, whoever he was, of the Orphic hymns. The Stoicks, who borrowed most of their opinions, in physics, from preceding philosophers, though they did not maintain all things to be formed out of water, yet contended that by the action of divine energy upon matter, the first element produced was that of *moisture*. (Enfield's Bruck. vol. I. 336.) In like manner, Hippo of Rhegium a pupil of the Pythagoric school, taught, as well as Heraclitus, that life consisted in moisture. (ib. 402.) Ac-

cording to the original tenet of the Ionic sect, every thing was formed, out of the element water, by the energy of the presiding power, or soul of the universe. (Cic. de Nat. Deor. L. I. c. 10.)

That the doctrine of the four humours, with the pathological dogmas founded on their affections, existed, in times previous to Hippocrates, is an opinion that cannot be disputed. Evident traces of it are to be met with in the still remaining fragments of the Antesocratic sages. Thus among other speculations regarding the peccancy of the humours, Anaxagoras used to maintain, that all acute diseases arose from a congestion of bile in the lungs, veins, and ribs. (Arist. part. Anim. IV. c. 2.)

(11) What I have termed here the Elementary Homoio-meria of Empedocles, differed, in one respect, from the Homoiomeria properly so called, or that of Anaxagoras, a pupil, as is well known, of the Ionic, not the Italic school. This last philosopher denied the doctrine of the elements, maintaining that the original principles of matter were more numerous than four, and could not therefore be resolved all into water, fire, earth, and air. (Gill. Anal. of Arist. Works, vol. I. 115.) Lucretius has given a beautiful exposition of the Anaxagorean tenet:

Nunc et Anaxagoræ scrutemur Homœomeriam,
 Quam Græci memorant, nec nostra dicere lingua
 Concedit nobis patrû sermonis egestas;
 Sed tamen ipsam rem facile'st exponere verbis,
 Principium rerum quam dicit Homœomeriam:
 Ossa videlicet e paucillis atque minutis
 Ossibu': sic et de paucillis atque minutis
 Visceribus viscus gigni: sanguenque creari,
 Sanguinis inter se multis coëuntibu' guttis:

Ex aurique putat micis consistere posse
 Aurum: et de terris terram condescere parvis:
 Ignibus ex ignem: humorem ex humoribus esse:
 Cætera consimili fingit ratione, putatque.

Empedocles, on the contrary, contended for the elementary system of physics of which he is, erroneously, supposed to be the inventor. The elements, it was further taught by him, consisted of particles infinitely minute, and of a globular form. These particles were endowed with the two primary qualities of discord and friendship, *νῆξες τε καὶ φιλία*, (Laert. L. VIII. Seg. 76. Plut. de Plac. Philos. in Oper. T. I. p. 878. fol. Lut. Par. Ann. 1624,) or what we would, in modern times, express by the terms *repulsion*, and *attraction*. The Deity, Intellectual Fire, or monad, meanwhile, kept those elementary particles continually in motion, and by this energy, joined to their own powers of attraction, and repulsion, all substances of the world, and among the rest, animal bodies, were framed. See a full account of the tenets of Empedocles by Bruck. T. I. from p. 1110 to 1120, in which will be seen likewise their near conformity with the doctrines of his master Pythagoras, adding strength to the belief that those of both, at least in their great outlines, were alike derived from the priests of Egypt. It is easy enough indeed, to discover the Homoiomeria of Empedocles amongst the dogmas brought into Greece by the founder of the Italic sect. (Bruck. T. I. 987.) From Pythagoras, it descended to Heraclitus, (ib. 1219,) and from this last, without doubt, it was borrowed by Hippocrates. The contrarieties of Aristotle were neither more nor less than the same doctrine, and were applied, by him, to the explication of the same phenomena. Both the Anaxagorean, and Pythagorean, Homoiomerias were equally useful for explaining the animal processes of digestion, and assimilation, and that the former was actually employed, for this purpose, by its inventor, we possess the explicit testi-

mony of Plutarch. I shall quote the passage in the Latin version of Xylander:—

“Anaxagoras Clazomenius similes particulas principia rerum statuit.—Sane cibum sumimus simplicem atque uniformem, ut cum pane vescimur, et aquam bibimus. Illo tamen alimento nutritur crinis, vena, arteria, nervi, ossa, omnes denique partes: quæ cum fiant, fatendum est in alimento istas omnes naturas inesse, singulisque singulas augeri; inesseque in eo particulas sanguini gignendo aptas; quæ quidem particulæ mente cernantur. Non enim ad sensum omnia sunt referenda, ut quod panis et aqua isthæc cōficiant; sed in his ipsis insunt particulæ mente intelligendæ, quas similes partes alimento insitas ut inde nascentibus sit primordium, Homœomerias (quasi similiarium semina partium) appellavit ille, et rerum principia esse dixit; ita quidem ut materiæ locum obtineant. Efficientem enim quoque causam, et quæ disponderet universa, prodidit mentem. Opus suum sic orsus est. Confusa in unum erant omnia; mens ea divisit, et in ordinem composuit. Hic approbandus est qui materiæ artificem adjunxit.” (Plut. Oper. T. I. p. 876. Par. ed. of 1624. fol.) From the above passage, it will become evident, that though a like physiology was taught by Hippocrates, yet with him it was not original, but derived from preceding philosophers, and in all probability, of Egyptian extract.

(12) That the Government of Egypt, though in appearance a monarchy, was, in fact, a mere ecclesiastical despotism, may be easily proven by the testimony of ancient authors. Thus the priesthood are found to have been in possession of the whole legislative, and judicial, power. (Diod. L. I. c. 81, 84. Hor. Apoll. Hier. c. 9.) They also presided over the revenue, and seem to have had the whole right of imposing taxes. (Clem. Alexand. Strom. L. VI. 4. Diod. L. I. 73. Larch. Note to Herod. L. II. c. 35. De Pauw and author,

cited in *Rech. sur les Egypt. and Chin. T. II. 286.*) From the most early times, likewise, they were proprietors of the best third of the kingdom, and their lands were exempted from all imposts, even during the greatest exigencies of the state. (*Genes. ch. XLVIII. v. 22.*) The king, indeed, was nothing more than head or chief of the Calasirians, and Hermotybians, the two tribes of the military cast, and as such, general in war, a privilege of no great consequence in a country so seldom engaged in hostilities as Egypt. It is further to be added, that none but a priest or a soldier could be raised to the throne, and if the latter, he must previously be admitted into the order of priesthood. In inauguration to the crown, none but a priest could perform the ceremony, and, on this occasion, the Sovereign was obliged to swear a tremendous oath not to violate the fundamental laws of the kingdom, of which the hierarchy was the sole framer, interpreter, and depository. (*Herod. L. II. c. 68.*) Even in the small degree of executive power permitted to the Chief Magistrate, he will be found continually under the check, and controul, of the same order of men. Thus, not only all his Counsellors, but all his servants, must be chosen from the sacerdotal cast. (*Diod. L. I. 70, 73.*) His whole private economy, and domestic arrangements, were, in like manner, subjected to them, as his times of eating and drinking, recreation and exercise, even to his intercourse with his wife. (*ib. 70.*) In this subserviency of the throne to the altar, we are not to wonder if all the insignia of dignity belonging to the former, should be derived from the latter, or that the Prince should have no other claim to rank, but what was accorded by the priesthood. Hence the mitre of the Pontiff, and the diadem of the Sovereign, were precisely the same, and the sceptre wielded by the first, was precisely similar to that borne by the latter. (*ib. L. III. c. 3.*)

ERRATA.

- Page 3, line 3 from bottom, *for these, read those.*
- 32, — 12 — do. *for on, read in.*
- 33, — 7 — do. *for Tetradon, read Tetraodon.*
- 33, — 4 — do. *for Kæmpf. read Kämpf.*
- 34, — 7 — top, *for Fætida, read Fœtida.*
- 34, — 16 — do. *for Costrum, read Cœstrum.*
- 39, — 7 — bottom, *for Jamaicens, read Jamaicensis.*
- 39, — 2 — do. *for Caliccoca, read Callicocca.*
- 43, — 17 — top, *for et, read and.*
- 43, — 12 — bottom, *for Polynæsia, read Polynœsia.*
- 44, — 9 — do. *for Polynæsia, read Polynœsia.*
- 47, — 1 — do. *for Res. read Rech.*
- 53, — 5 — do. *for Plauteaux, read Plateaux.*
- 59, — 1 — do. *for Flor.-Arab. read Flor. Ægypt.-Arab.*
- 68, — 6 — do. *for Mer. read Mers.*
- 70, — 1 — top, *for religions, read religious.*
- 88, — 1 — bottom, *for Curr. read Cur.*
- 102, — 15 — top, *for Arabia, read Arabic.*
- 103, — 15 — do. *for Jagovy, read Jagory.*
- 108, — 5 — do. *for bears annually, read bears twice annually.*
- 169, — 6 — do. *for in, read on.*
- 171, — 11 — do. *for Eneid, read Æneid.*
- 181, — 16 — do. *for ov aîle, read ôvalle.*
- 206, — 7 — bottom, *for Discov. read Dioscor.*
- 227, — 18 — top, *for Saigrer, read Saigner, for levnes, read levrea.*
- 308, — 1 — bottom, *for vol. read verse.*
- 329, — 6 — do. *for and, read et.*
- 331, — 4 — do. *for Græc. read Græc.*









